

# Reference Guide

MBL International Corporation (MBLI) is a leading life science company focused on providing high quality products and solutions for life science research and clinical diagnostics.

MBLI develops, manufactures and markets a wide range of ELISA and gold standard IFA test kits to aid in the diagnosis of autoimmune and infectious disease as well as an extensive portfolio of monoclonal and polyclonal antibodies, fluorescent and recombinant proteins, and ELISA kits for research related to cancer, immunology, neuroscience, allergy, autophagy, and apoptosis.

Our products are used widely in academic research institutions, pharmaceutical and biotechnology companies, government agencies, as well as hospital and reference laboratories. By providing a consultative approach, superior technical and customer support, and convenient purchasing options, MBL International Corporation is your partner in solving your scientific and clinical challenges.

Manufacturing facilities are FDA registered and ISO Certified providing our customers with the confidence that not only are our products innovative but produced in compliance with strict international standards to ensure the highest quality.

Discover how MBL International Corporation can make your science more efficient and effective.



World-wide distribution network serving nearly 50 countries



Creating innovative and novel products that target key research areas and applications



An obsessive devotion to quality providing researchers and clinicians with confidence in test results



Collaboration at every touch-point and uncompromising support to ensure you get the product and assistance when you need it

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## Abbreviation List:

	<i>Application</i>
<b>ELISA</b>	Enzyme-linked Immunosorbent Assay
<b>FCM</b>	Flow Cytometry
<b>ICC</b>	Immunocytochemistry
<b>IF</b>	Immunofluorescence
<b>IFA</b>	Immunofluorescence Assay
<b>IHC</b>	Immunohistochemistry
<b>IPP</b>	Immunoprecipitation
<b>RIP</b>	RNA Immunoprecipitation
<b>NT</b>	Neutralization
<b>WB</b>	Western Blot

	<i>Species</i>
<b>Bo</b>	Bovine
<b>Ch</b>	Chicken
<b>Ct</b>	Cat
<b>Hu</b>	Human
<b>Ha</b>	Hamster
<b>Mk</b>	Monkey
<b>Mo</b>	Mouse
<b>Rt</b>	Rat
<b>Rb</b>	Rabbit

	<i>Format</i>
<b>HRP</b>	Horseradish Peroxidase
<b>FITC</b>	Fluorescein Isothiocyanate
<b>PE</b>	Phycoerythrin
<b>RUO</b>	Research Use Only

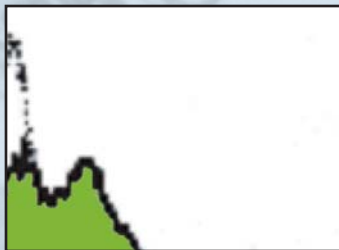
**All products are for Research Use Only unless otherwise indicated.**

The MBLI Reference Guide is intended to highlight key and featured products. Please refer to [www.mblintl.com](http://www.mblintl.com) for a complete listing of our portfolio of Research Use Only and Clinical Diagnostic Products.

# APOPTOSIS ANTIBODIES & KITS

## ANTIBODIES

- **Fas**
- **MFG-E8**
- **VDUP-1**
- **Over 600 additional products available**

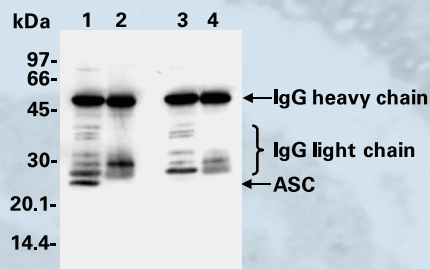


Flow cytometric analysis of human Fas expression on normal human lymphocyte. Open histogram indicates the reaction of isotypic control to the cells. Shaded histogram indicates the reaction of MD-11-3 to the cells.

(Code No. MD-11-3)

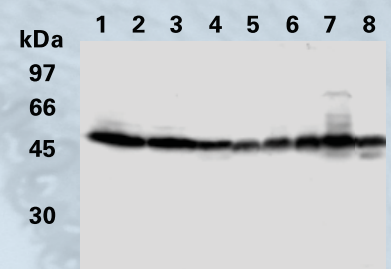
## APPLICATIONS

- **WB**
- **FCM**
- **IPP**
- **IHC**
- **ICC**



Immunoprecipitation of ASC from HL-60 with D086-3 (1,3) and normal mouse IgG (2,4). After immunoprecipitated with the antibody, immunocomplex was resolved on SDS-PAGE and immunoblotted with D086-3 (1,2) or normal mouse IgG (3,4).

(Code No. D086-3)



Western blot analysis of Txnip/VDUP1 expression in Raji (1), K562 (2), KG1 (3), MRC5 (4), IC2Tr (5), HEL (6), P19 (7), and WR19L (8) using K0205-3.

(Code No. K0205-3)

Code No.	Product Name	Clone No.	Species Reactivities	Application	Size
M009-3	Amyloid Precursor Protein	3E9	Hu, Mo	WB	100 µg
D086-3	ASC	23-4	Hu	WB, IPP, ICC, IHC	100 µg
M029-3	Caspase-4	4B9	Hu	WB	100 µg
M059-3	Caspase-10	4C1	Hu	WB	100 µg
M070-3	Caspase-6	3E8	Hu, Rt	WB, ICC	100 µg
M032-3	Caspase-8	5F7	Hu	WB	100 µg
M054-3	Caspase-9	5B4	Hu, Mo, Rt	WB	100 µg
D230-3	CD274/PD-L1	27A2	Hu	FCM, IHC	100 µg
D092-3	CD274/PD-L1	MIH3	Hu	FCM	100 µg
SY-001	Fas/CD95	CH-11	Hu	WB, FCM	50 µg
MD-11-3	Fas/CD95	ZB4	Hu	WB, FCM, NT	100 µg
K0020-1	Granulocytes	BM-2	Hu	IHC	200 µL
D199-3	MFG-E8	18A2-G10	Mo	WB, IHC	100 µg
D161-3	MFG-E8	2422	Mo	FCM, IPP	100 µg
D031-3	Proton pump	1H9	Hu, Mo, Rt, Bo	WB, IPP, IHC	100 µg
K0179-3	SREBP-1	2A4	Hu	WB, IPP	100 µg
K0205-3	VDUP-1/Txnip	JY2	Hu, Mo	WB, IPP, IHC	100 µg
M044-3	XIAP	2F1	Hu, Mo, Rt	WB	100 µg

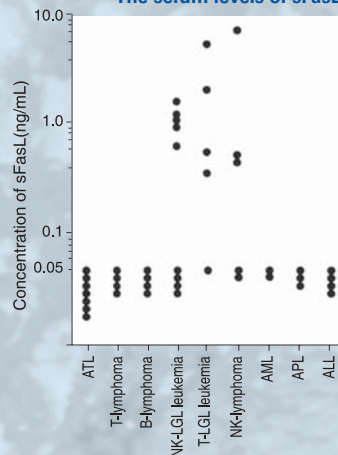


# APOPTOSIS DETECTION KITS

## sFas

- The sFas ELISA Kit measures soluble Fas ligand by using monoclonal antibodies against 2 different epitopes of the Fas ligand

The serum levels of sFasL in patients (Code No. 5255)

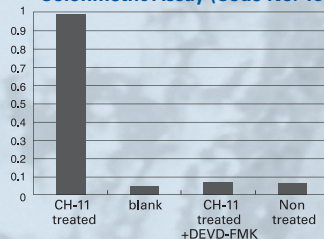


ATL: Adult T-cell leukemia  
 NK-LGL: natural killer-large granular lymphocytic  
 T-LGL: T cell-large granular lymphocytic  
 AML: acute myelogenous leukemia  
 APL: acute promyelocytic leukemia  
 ALL: acute lymphocytic leukemia  
 From Tanaka M. et al., Nature Medicine 2, 317-323(1996)

## Caspase Kits

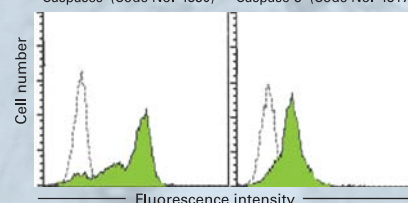
- Measure caspase activities in living cells and cell lysates

Colorimetric Assay (Code No. 4800)

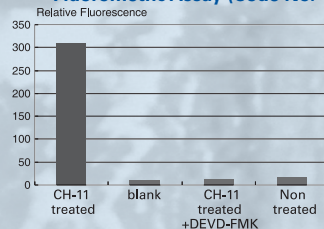


Flow Cytometry

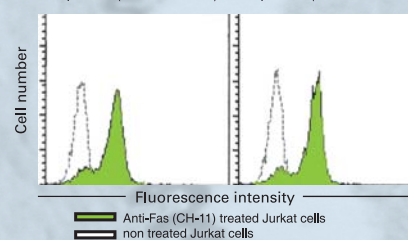
Detection of intracellular caspase activity in apoptotic Jurkat cells using APOPCYTO™ Intracellular Caspase Activity Detection Kits. Caspases (Code No. 4830) Caspase-3 (Code No. 4817)



Fluorometric Assay (Code No. 4815)



Caspase-8 (Code No. 4822) Caspase-9 (Code No. 4827)



### Code No.

### Product Name

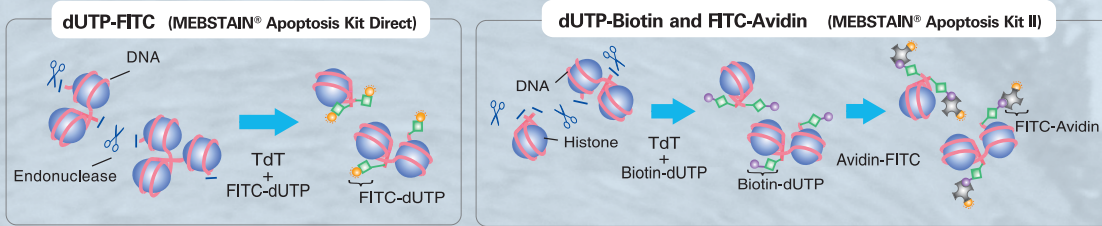
### Size

4690	APOPCYTO™ Annexin V-Azami-Green Apoptosis Detection Kit	100 assay
4800	APOPCYTO™ Caspase-3 Colorimetric Assay Kit	100 assay
4815	APOPCYTO™ Caspase-3 Fluorometric Assay Kit	100 assay
4805	APOPCYTO™ Caspase-8 Colorimetric Assay Kit	100 assay
4820	APOPCYTO™ Caspase-8 Fluorometric Assay Kit	100 assay
4810	APOPCYTO™ Caspase-9 Colorimetric Assay Kit	100 assay
4825	APOPCYTO™ Caspase-9 Fluorometric Assay Kit	100 assay
4817	APOPCYTO™ Intracellular Caspase-3 Activity Detection Kit	100 assay
4822	APOPCYTO™ Intracellular Caspase-8 Activity Detection Kit	100 assay
4827	APOPCYTO™ Intracellular Caspase-9 Activity Detection Kit	100 assay
4830	APOPCYTO™ Intracellular Caspases Activity Detection Kit	100 assay
CY-1250	CycLex® Cathepsin S Fluorometric Assay Kit	100 assay
4700	MEBCYTO® Apoptosis Kit	100 assay
8445	MEBSTAIN® Apoptosis Kit Direct	66(FCM)/40(IHC)
8441	MEBSTAIN® Apoptosis Kit-II	66(FCM)/40(IHC)
5255	sFas Ligand ELISA Kit	96 well

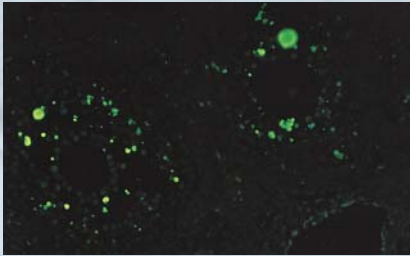
# APOPTOSIS DETECTION KITS

## TUNEL-Based Detection Kits

### Principle for detection of DNA fragmentation

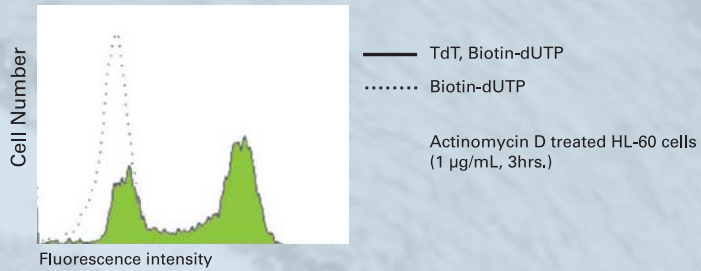


■ Histochemistry (Code No. 8441)



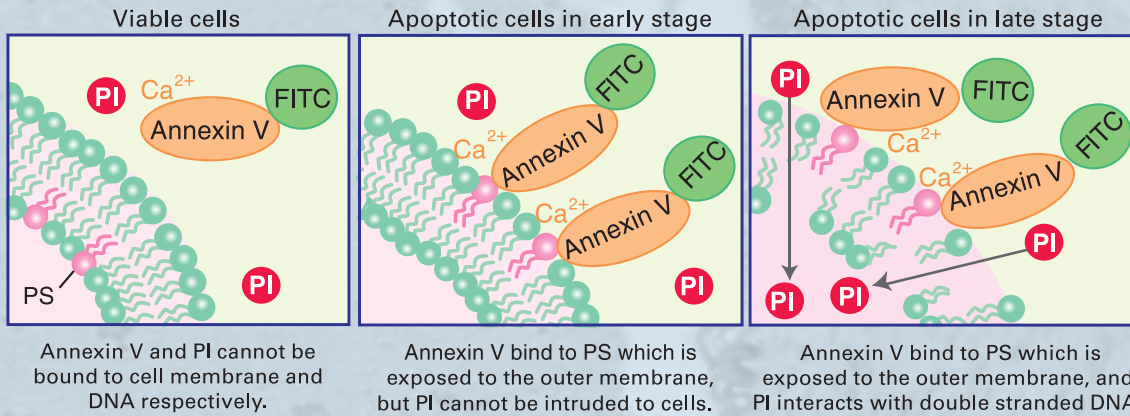
Mouse ovary

■ Flow Cytometry (Code No. 8441)



## Annexin V Apoptosis Detection Kit

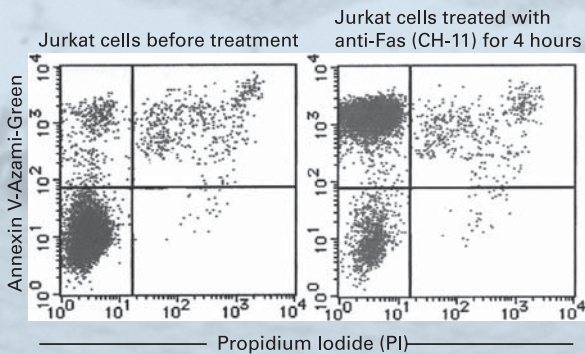
### Principle of Apoptosis Kit



Annexin V Labeled Azami-Green, Biotin, EGFP, FITC

PS: Phosphatidylserine  
PI: Propidium Iodide

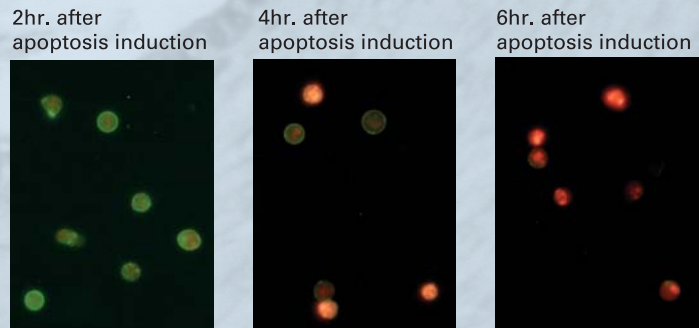
### Flow Cytometry



Lower left (AnnexinV/PI): Viable cells  
Upper left (AnnexinV/PI): Apoptotic cells in early stage  
Upper right (AnnexinV/PI): Apoptotic cells in late stage or Necrotic cells

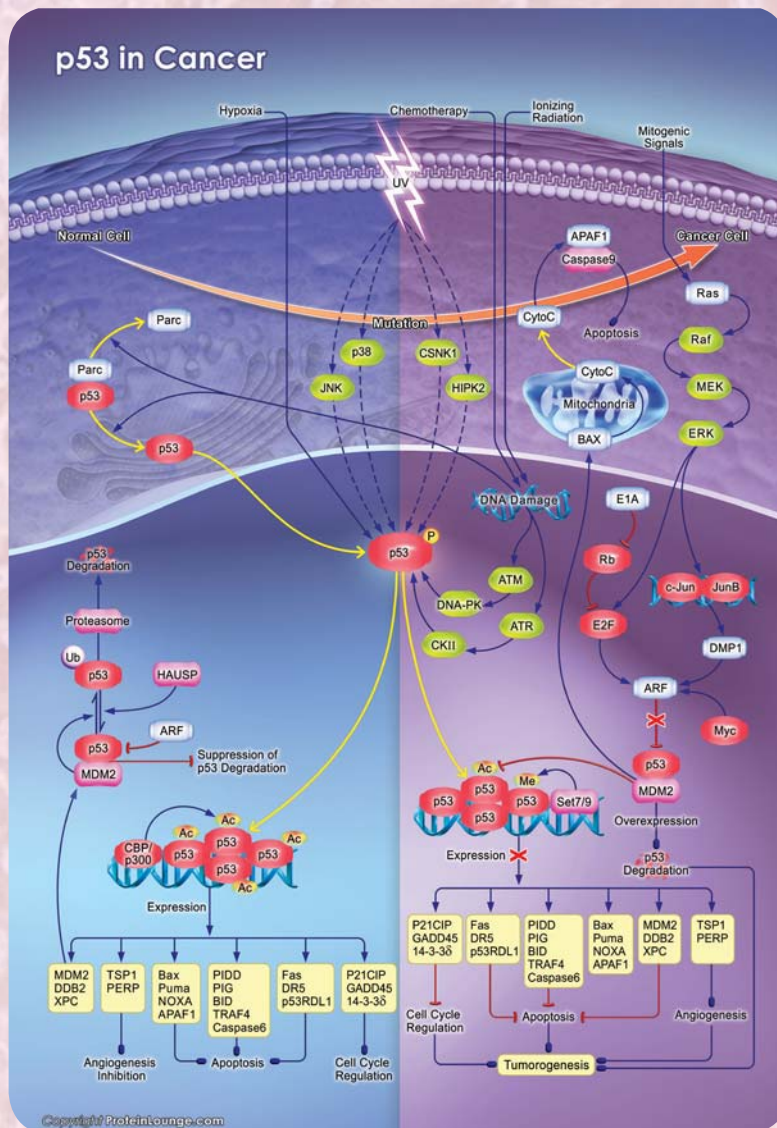
(Code No. 4690)

### Cytochemistry (double staining of FITC-Annexin V and PI)



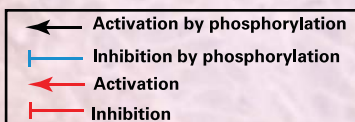
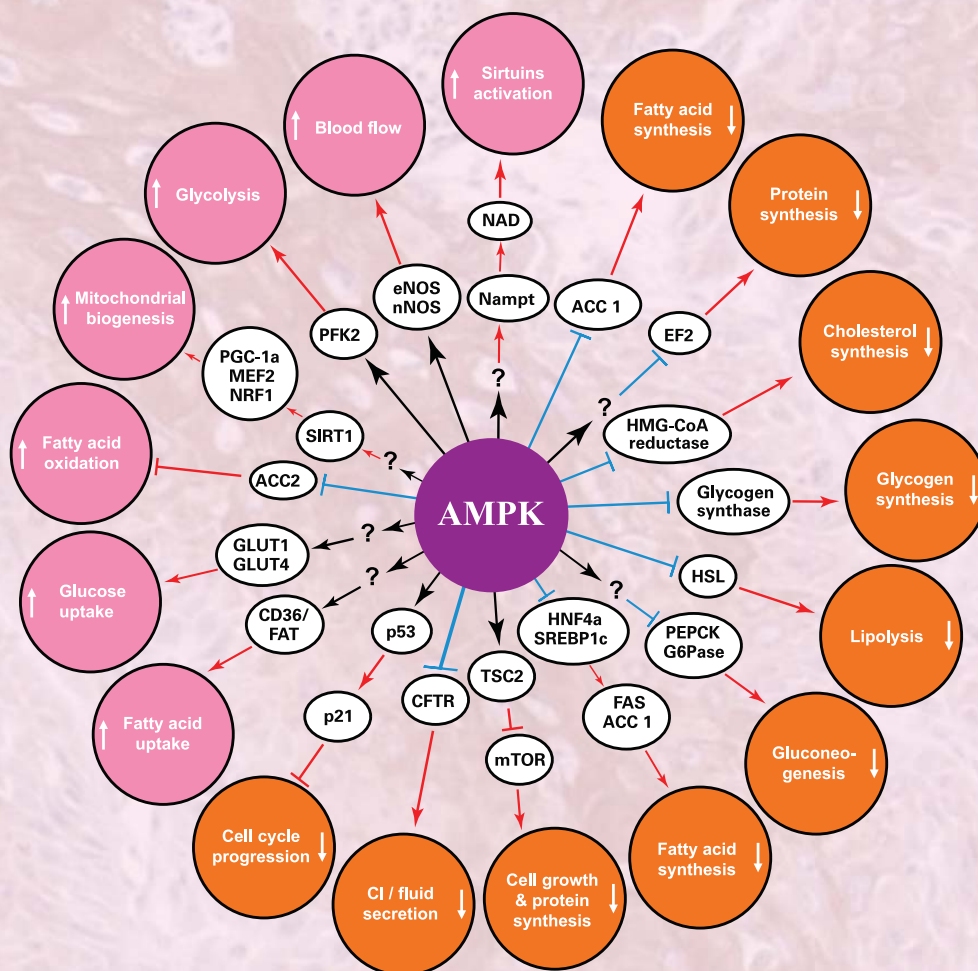
(Code No. 4700)





**p53** is a short-lived, non-abundant protein that regulates the response of cells to DNA damage, in part through transcriptional activation of genes involved in cell cycle control, DNA repair, and apoptosis. p53 is a tumor suppressor protein; consequently, mice in which the p53 gene has been disrupted develop tumors with high frequency, and deletions or mutations in the p53 gene are prevalent in a majority of human cancers. The protein level and activity of p53 is regulated by MDM2 (murine double minute 2). The MDM2 gene is induced by p53, and MDM2 prevents apoptosis by inhibiting p53 activity and promoting its degradation.

Code No.	Product Name	Size
CY-1143	CycLex® Histone H2A.X Phosphorylation Cellular ELISA Kit	2 x 96 well
CY-1161	CycLex® cyclic GMP dependent protein kinase (cGK) Assay Kit	96 assay
7638	ST2 ELISA Kit	96 well
CY-1182	CycLex® AMPK Kinase Assay Kit	96 assay
RG-7640E	Anti-p53 ELISA TEST Kit	48 well

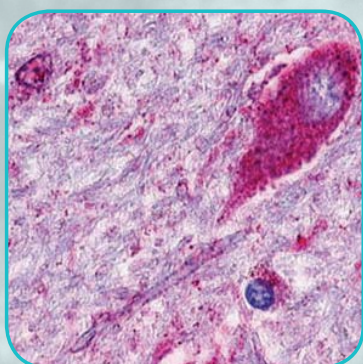
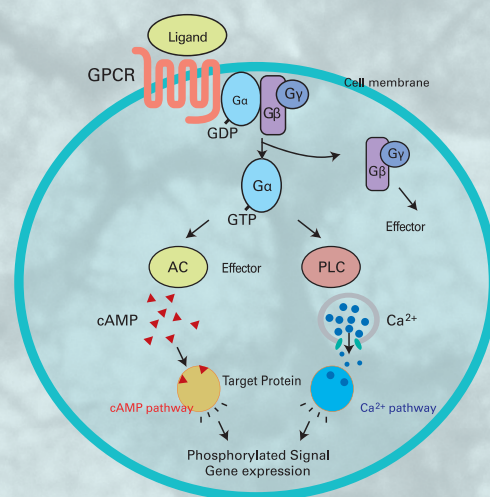


Serine/Threonine Kinase Kits			Tyrosine Kinase Kits	Fluorometric Phosphatase Assay Kits
Akt/PKB	CK2 Kinase	PDK1	EphA2	Cdc25A Cdc25B Cdc25C
AMP Kinase	cGK/PKG	Pim-1 Kinase	FGFR2	Cdi / KAP
Aurora A	DYRK2	Polo-like Kinase-1	Lck/p56	PTP1B Phosphatase
Aurora Family	IKK $\alpha$ and $\beta$	Polo-like Kinase-2	Met	T Cell Tyrosine Phosphatase (TC-PTP)
CaM Kinase II	JNK/SAPK	Polo-like Kinase-3	Pyk2	LMW-PTP/ACP1
Casein Kinase 2	MAPKAP Kinase 2	PKA & PKC	Src	
Cdc2-Cyclin B	Mps1/TTK	Raf	TrkA Kinase	
Checkpoint Kinases	p38	Rho Kinase	Wee1	

# GPCRs & TRANSPORTERS

G-protein coupled receptors are transmembrane proteins that activate a signal transduction pathway which communicates within the cell. All GPCR antibodies are optimized for histochemistry in human tissues using formalin-fixed, paraffin embedded sections. Antibodies are provided as 50 µg of peptide affinity-purified polyclonal rabbit sera. The expression pattern of each antibody has been screened across a panel of up to 50 tissues and compared to other proprietary or commercially available antibodies by board-certified pathologists. Antibodies are selected that show the strongest concordance to existing literature and known patterns of expression in other species, as well as for their affinity and specificity to their targets.

- **Over 1200 Polyclonal Antibodies**
- **341 Targets to G-Protein Coupled Receptors**
- **Optimized for Immunohistochemistry**
- **Disease Areas:**  
Neurological Disorders, Cancer,  
Cardiovascular, Digestive & Renal, Inflammation



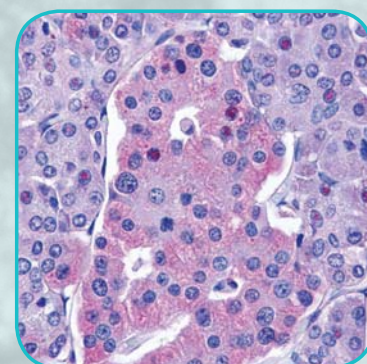
(Code No. LS-A1236)

Brain: Formalin-Fixed  
Paraffin-Embedded



(Code No. LS-A7401)

Kidney: Formalin-Fixed  
Paraffin-Embedded



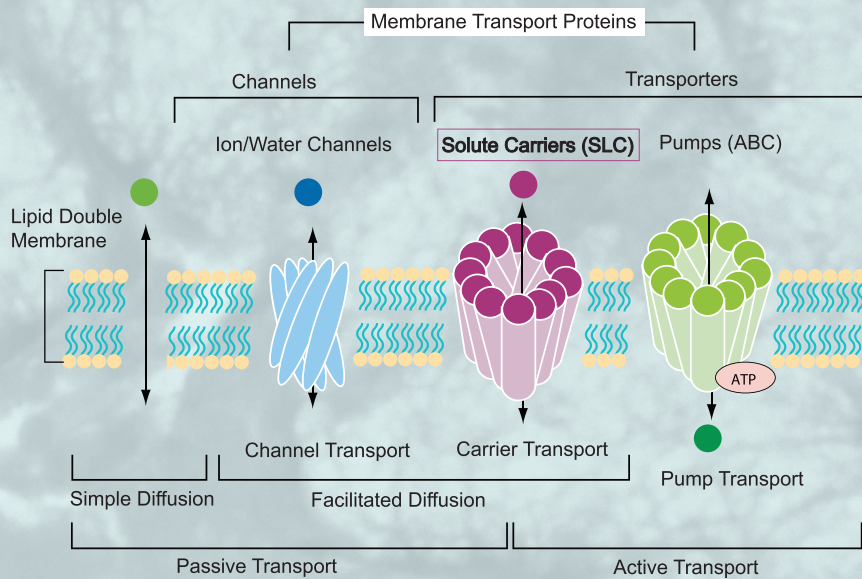
(Code No. LS-A1205)

Ovary: Formalin-Fixed  
Paraffin-Embedded

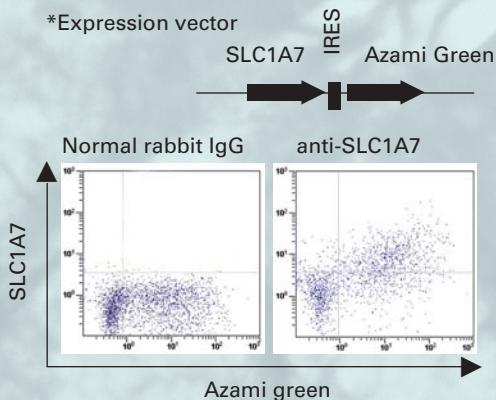
Code No.	Product Name	Species Reactivities	Application	Size
LS-A1236	G-Protein Coupled Receptor 49 PoAb	Hu	IHC	50 µL
LS-A7401	Traf2 and NCK-Interacting Kinase PoAb	Hu	IHC	50 µL
LS-A1205	Glucagon-Like Peptide 1 Receptor PoAb	Hu, Mo	IHC	50 µL
BMP024	Solute carrier family 1 member 7 PoAb	Hu	WB, IHC, ICC, FCM	50 µL

# SOLUTE CARRIERS

Many important nutrients, including glucose and amino acids, are water soluble. Transporter proteins enable water soluble nutrients to cross the lipid double membrane and enter the cell. These membrane transporters form a large and diverse family of proteins which are highly selective for specific solutes, called solute carriers (SLC). Transporters can be divided into pumps (ATP binding cassette) which consume energy by hydrolyzing ATP, and carriers which facilitate the diffusion of solutes without use of ATP. The human genome encodes 49 known pumps and 360 solute carrier proteins. Transporters are expressed throughout the body, but are most abundant in kidney, liver and the nervous system.

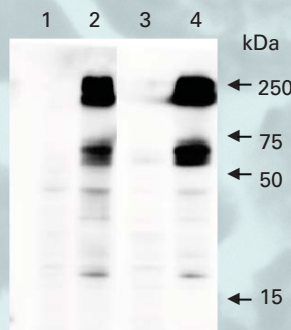


- Useful for transporter related diseases and drug discovery
- Solute carrier antibodies have been verified by analysis of cells transfected with full length SLC cDNA
- Applications: FCM, WB, ICC, IHC



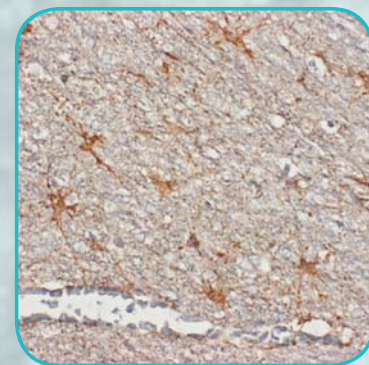
Flow cytometric analysis of intracellular SLC1A7 expression on 293T transiently expressing SLC1A7 and Azami green (expression vector). The staining intensity of SLC1A7 is shown in the vertical axis with Azami Green fluorescence on the horizontal axis.

(Code No. BMP024)



Western blot analysis of SLC1A7 expression in Myc-tagged SLC1A7 transfected 293T (2,4) and parental cell (1,3) using BMP024 (1,2) and anti-Myc-tag antibody (3,4) MBL; Code No. M047-3.

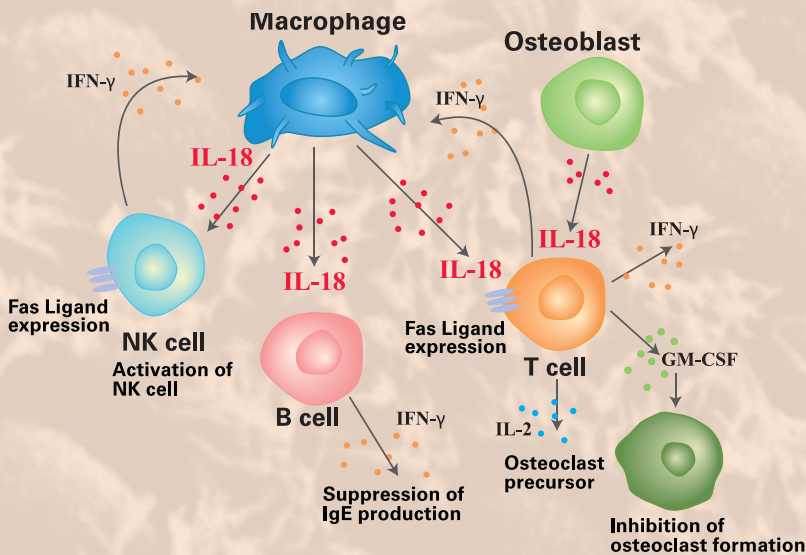
(Code No. BMP024)



IHC detection of SLC1A7 in Formalin-Fixed Paraffin-Embedded tissue of cerebellum.

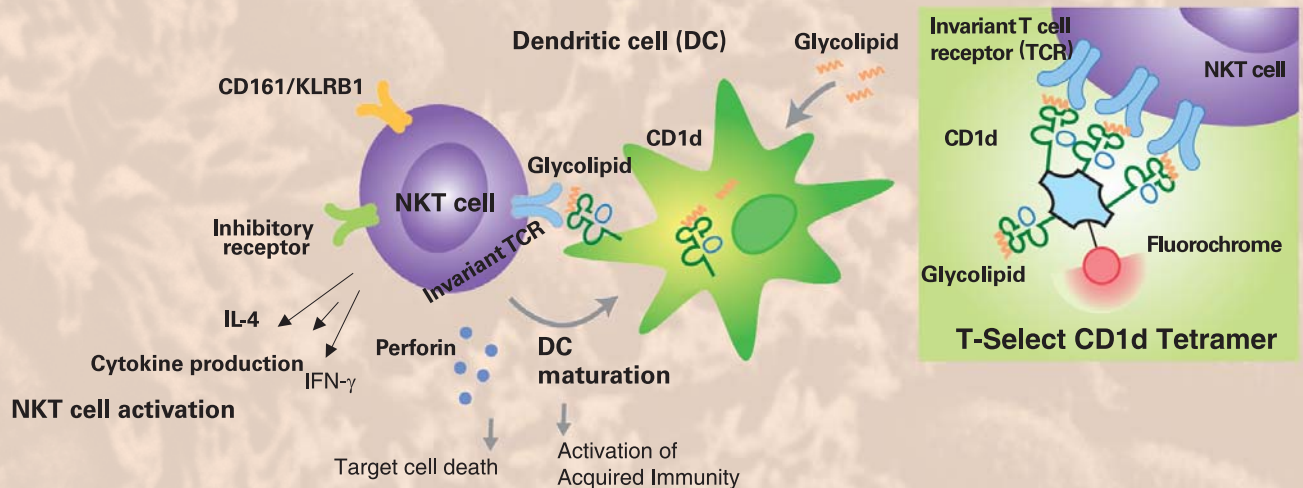
(Code No. BMP024)





Interleukin 18 (IL-18) is an 18 kDa novel cytokine identified as a co-stimulatory factor for production of interferon- $\gamma$  (IFN- $\gamma$ ) in response to toxic shock. IL-18 acts on T helper type 1 (Th1) cells in combination with IL-12. It strongly induces production of IFN- $\gamma$  by these cells. IFN- $\gamma$  is produced by activated T and NK cells and play critical roles in the defense against microbial pathogens. IFN- $\gamma$  activates macrophages, enhances NK activity and B cell maturation, proliferation and Ig secretion, induces MHC class I and II antigen expression, and inhibits osteoclast activation.

Regulatory T cells (Treg) suppress overactive immune responses by inhibiting the function of activated T cells. These cells are very important for immunological tolerance to self antigens.



- **Neuropilin-1/CD304**
- **CD8**
- **GITR**

- **T-Select CD1d Tetramer**
- **Foxp3**
- **GPR83**

- **CD4**
- **FR4**

Code No.

7620

7625

7630

RG-7618EC-D\*

TS-HCD-1

TS-MCD-1

\*  $\text{C}$  Marked

Product Name

Human IL-18 ELISA Kit

Mouse IL-18 ELISA Kit

EDN ELISA Kit

ECP ELISA Kit

T-Select Human CD1d Tetramer-SA-PE

T-Select Mouse CD1d Tetramer-SA-PE

Size

96 well

96 well

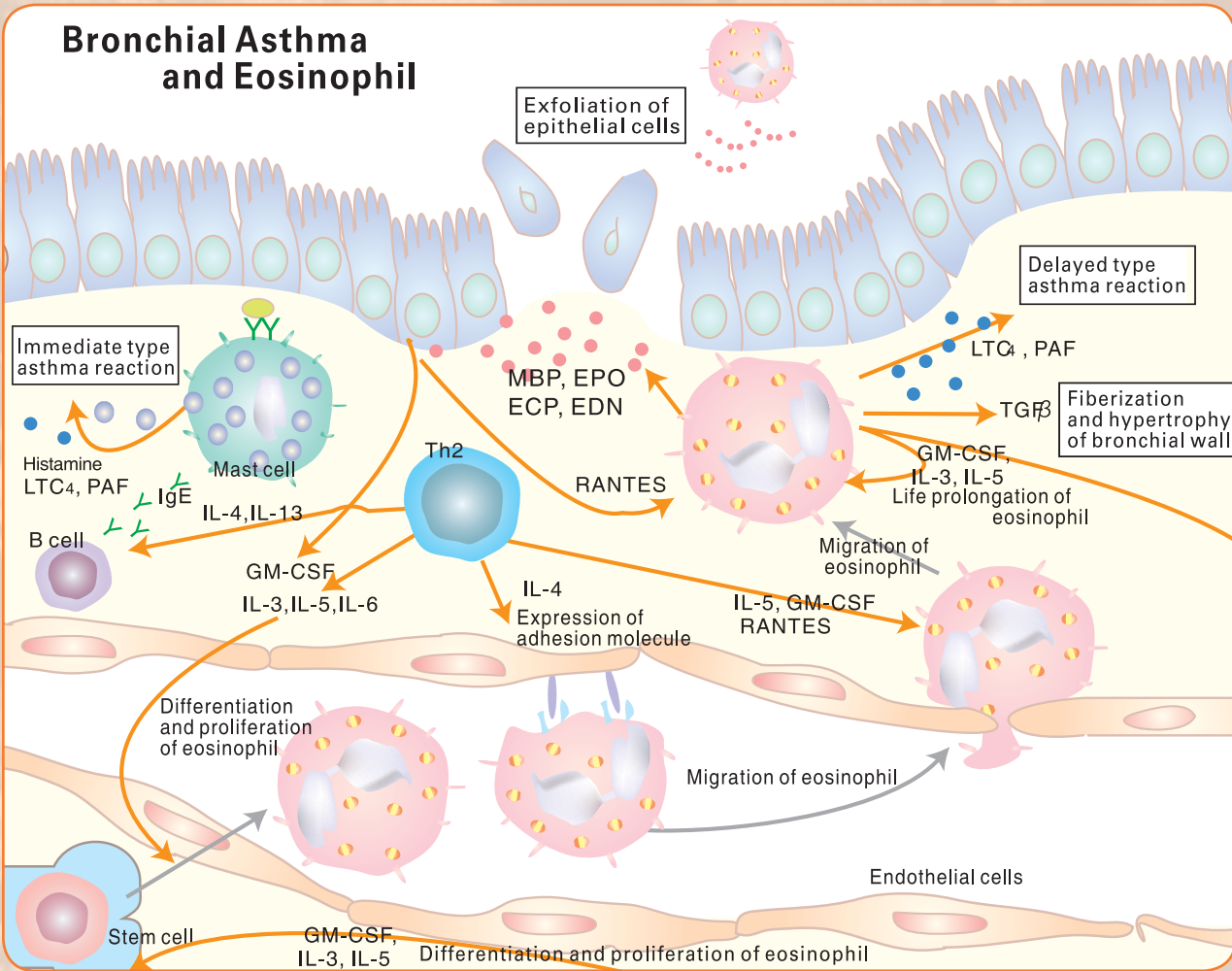
96 well

96 well

50 test

50 test

# Bronchial Asthma and Eosinophil



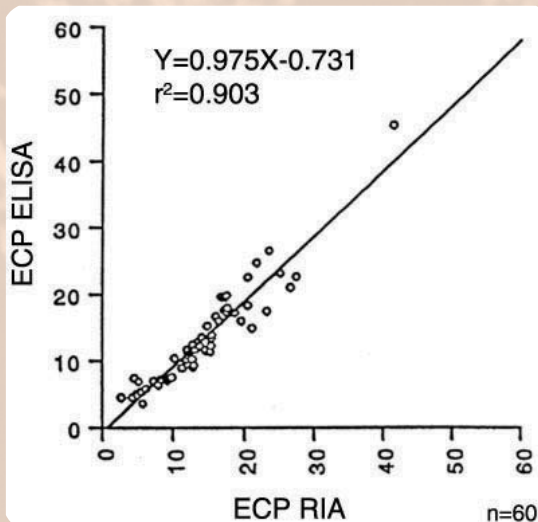
Eosinophil Cationic Protein (ECP), Eosinophil Derived Neurotoxin (EDN) and Major Basic Protein (MBP) are known to be major protein-mediators derived from activated eosinophils. Activated eosinophils play an important role in inflammatory processes especially in allergic diseases. The levels of eosinophil activation can serve as complementary data for monitoring asthma inflammation. As ECP/EDN proteins are secreted from activated eosinophils, they can become markers of eosinophil activation and degranulation which can cause inflammatory disease of the airway.

## ECP

- No cross reactivity with EDN
- For use with human serum samples

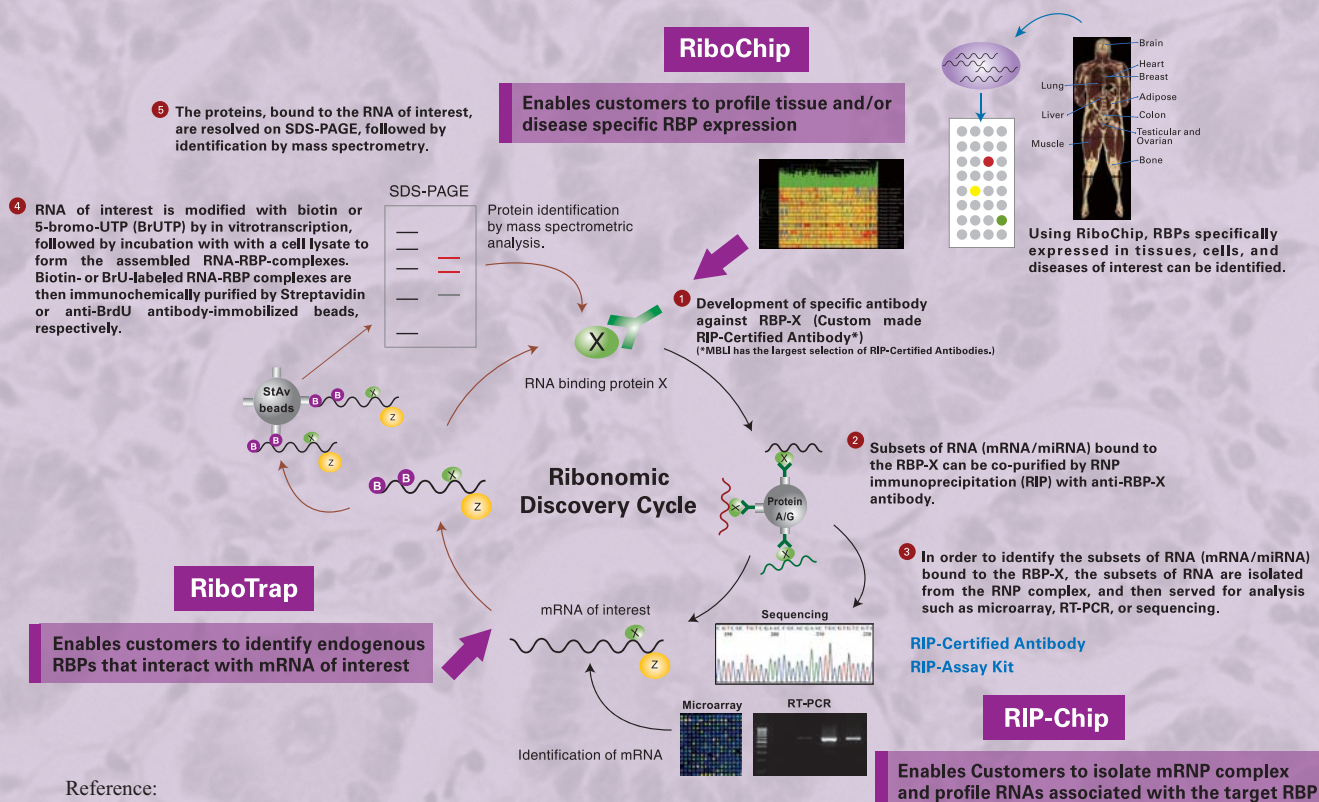
## EDN

- No cross reactivity with ECP
- For use with human serum samples



Post-transcriptional regulation of gene expression plays an important role in most cellular processes such as development and metabolism as well as in many diseases such as cancer progression. RNP complexes are the fundamental units of post-transcriptional regulation of mRNA. RNA molecules, including mRNA and non-coding species such as microRNA (miRNA), exist in RNP complexes with specific RNA-binding proteins (RBPs).

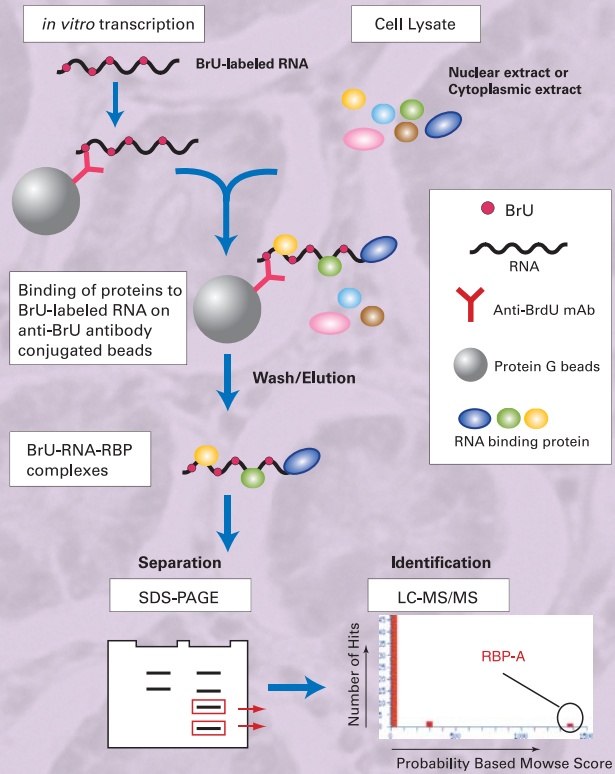
## Ribonomics Discovery Cycle



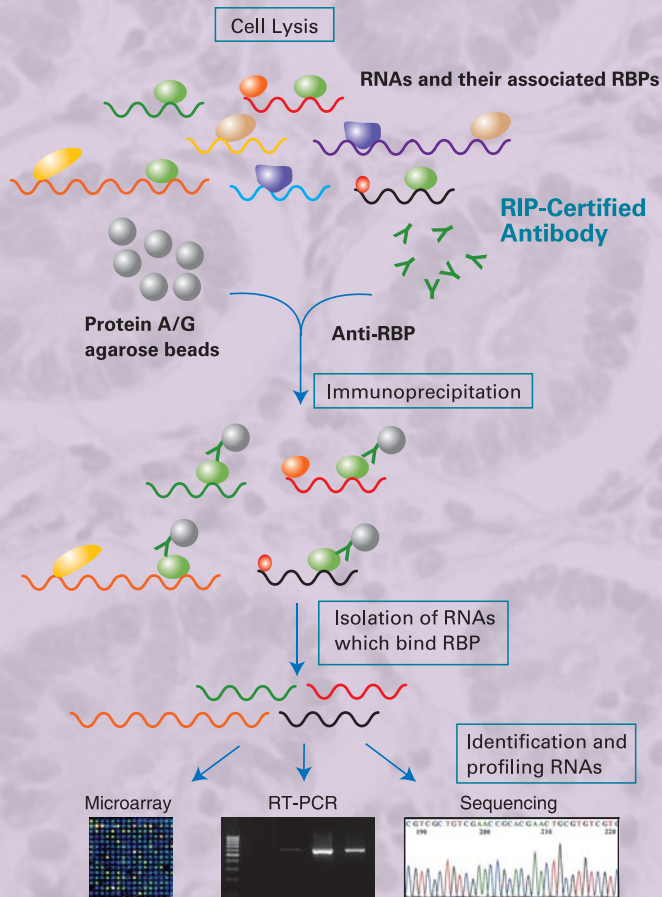
Code No.	Product Name	Size
RN1001	RIP-Assay Kit for RNA	10 assay
RN1005	RIP-Assay Kit for microRNA	10 assay
RN1011 / RN1012	RiboTrap Kit	10 assay
RN003M	Anti-EIF2C2/AGO2 Monoclonal RIP-grade Antibody	200 $\mu$ L
RN004P	Anti-ELAVL1/HuR Polyclonal RIP-grade Antibody	200 $\mu$ L
RN001P	Anti-EIF4E Polyclonal RIP-grade Antibody	200 $\mu$ L

## RiboTrap Principle

- Immunoaffinity method to explore RNA-protein as well as RNA-RNA interactions
- Reliable method to describe the endogenous assembly of ribonucleoproteins
- Identify regulatory components in biosynthesis of small RNA, non-coding RNA



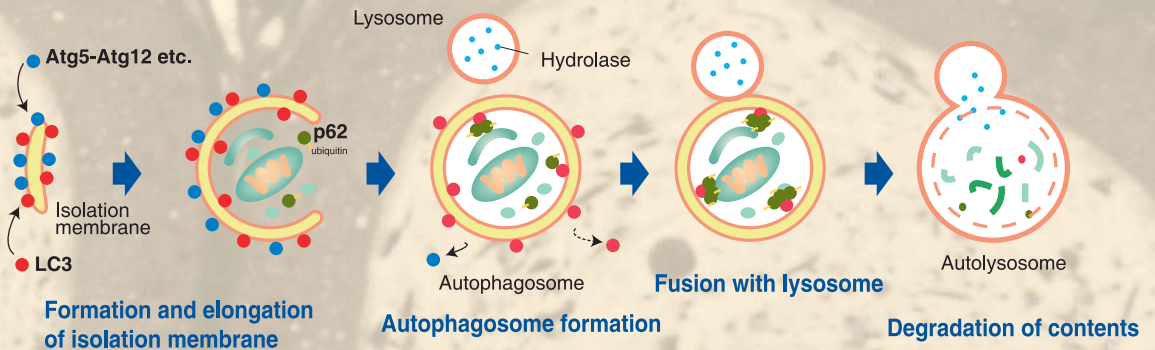
## Principle of RIP-Assay Kit



- Biological approach to find functionally related genes of disease pathways
- Analyze post-transcriptional regulated genes
- Establish novel components of cellular pathways
- Identify new drug mechanisms
- Identification of RNAs in RNP complexes can be done in a few hours
- Largest selection of antibodies validated for RNA-binding protein immunoprecipitation

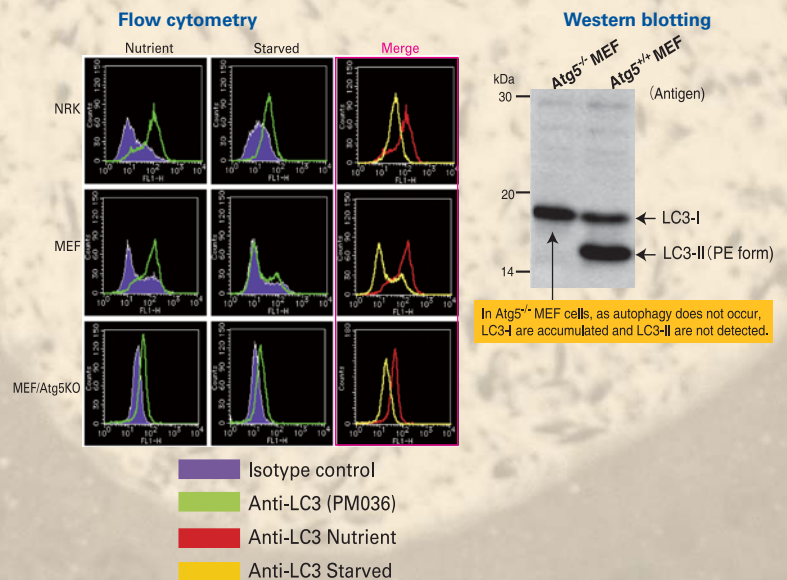


Autophagy was first discovered in yeast, as a starvation response, in which cells digest portions of their cytoplasm to generate nutrients. In mammalian cells, autophagy has been shown to have additional functions, and has been implicated in neuronal degradation infectious disease, heart disease and cancer. The autophagy antibodies are provided at a concentration of 1 mg/mL and validated for each application listed on the datasheet.



Antigen Target	Application				
	ICC	IHC	WB	IPP	FCM
Atg	✓		✓		
Atg10 <sup>+</sup>			✓		
Atg12 <sup>+</sup>			✓	✓	
Atg13			✓	✓	
Atg14			✓	✓	
Atg16L <sup>+</sup>	✓	✓	✓	✓	✓
Atg3 <sup>+</sup>	✓	✓	✓	✓	✓
Atg4B <sup>+</sup>			✓		
Atg5 <sup>+</sup>			✓		
Atg7 <sup>+</sup>	✓	✓	✓	✓	✓
Beclin 1 <sup>+</sup>	✓		✓	✓	
GABARAP <sup>+</sup>	✓		✓		
GATE-16 <sup>+</sup>			✓		
LC3 <sup>+</sup>	✓	✓	✓	✓	✓
p62/SQSTM1 <sup>+</sup>	✓	✓			
Rubicon			✓		
SPα/CD5L			✓		
Ubiquitin		✓	✓	✓	
UVRAG			✓	✓	

\* Sample Sizes Available.



**Starvation:** Hank's Balanced Salt Solution, 4 hr cell dissociation; Tripsin-EDTA

**Fixation:** 4% PFA (RT 15min)

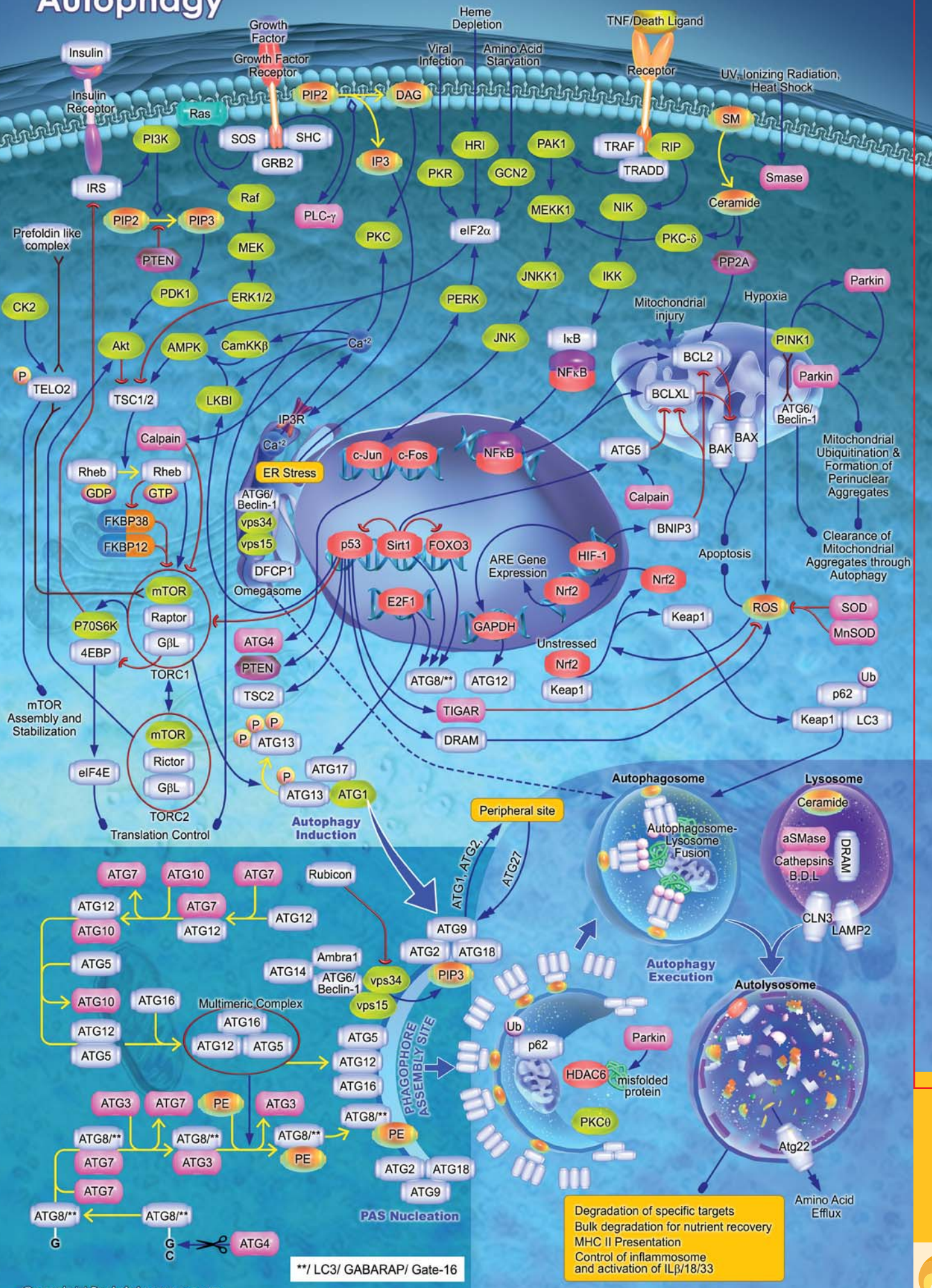
**Permeabilization:** Digitonin (100 µg/mL) (RT 15min)

**1st antibody:** anti-LC3 (PM036); normal rabbit IgG; (RT 30 min)

**2nd antibody:** anti-rabbit IgG-FITC (IM-0833), (RT 30 min)

Atg5<sup>-/-</sup> MEF Cell provided by courtesy of Noboru Mizushima, M.D., Ph.D., Tokyo Medical and Dental University

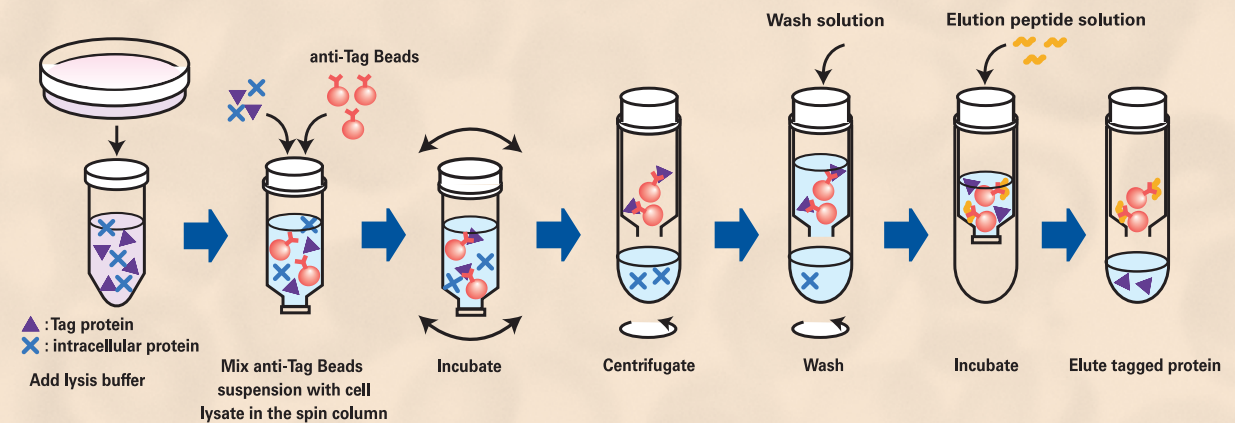
# Autophagy



## TAG PROTEIN PURIFICATION KITS

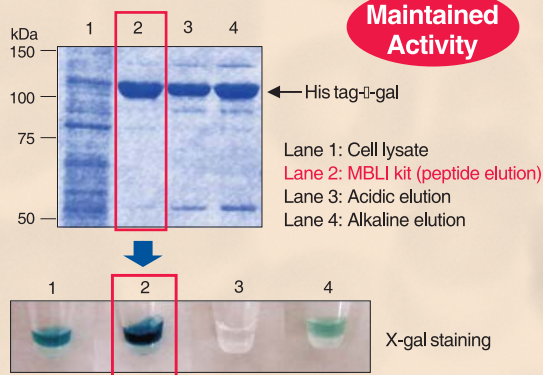
MBLI's tagged protein purification kits are designed for the isolation of His, c-Myc or V5-tagged proteins from cell lysates and cell culture supernatants. MBLI has optimized anti-Tag antibody affinity to permit high yield and efficient purification of functionally tagged proteins. Our purification kits use His, c-Myc, and V5 conjugated beads to purify tagged proteins quickly and efficiently using a spin column. These kits have been optimized to maintain protein activity and conformity using neutral pH conditions.

### Procedure Summary

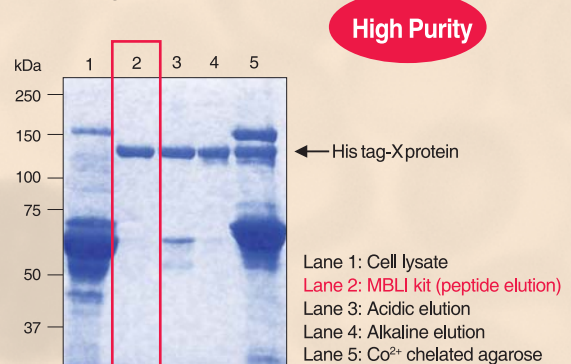


### His-tagged Protein Purification Kit (Code No. 3310)

■ Protein activity of the purified proteins



■ Purification from cell culture supernatant containing serum



Code No.

3305

3310

3315

Product Name

c-Myc-tagged protein mild purification Kit

His-tagged protein purification Kit

V5-tagged protein purification Kit

Size

20 test

20 test

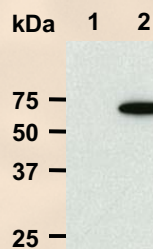
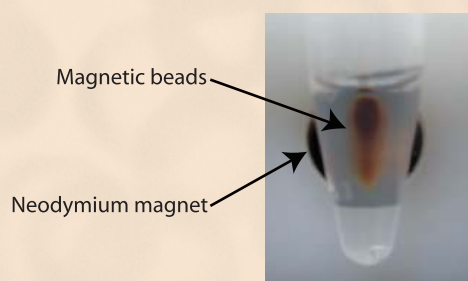
20 test

	Antigen Target	Clonality	Application				Conjugate						
			WB	IPP	ICC	IHC	Agarose	Biotin	HRP	Alexa Fluor® 488	Alexa Fluor® 594	Alexa Fluor® 647	Magnetic Beads
<b>Fluorescent Protein</b>	GFP	Polyclonal/ Monoclonal	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓
	RFP	Polyclonal/ Monoclonal	✓	✓	✓	✓	✓		✓				✓
<b>Epitope Tag</b>	Chitin Binding Domain	Polyclonal	✓										
	DDDDK	Polyclonal	✓	✓	✓	✓	✓		✓				
	HA	Polyclonal/ Monoclonal	✓	✓	✓		✓	✓	✓	✓			✓
	His	Polyclonal/ Monoclonal	✓	✓	✓		✓		✓	✓	✓	✓	✓
	Myc	Polyclonal/ Monoclonal	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
	S	Polyclonal	✓	✓			✓						
	T7	Polyclonal	✓	✓			✓						
	V5	Polyclonal/ Monoclonal	✓	✓	✓		✓		✓				✓
	VSV	Polyclonal	✓	✓	✓		✓						
	<b>Fusion Protein</b>	GST (Glutathione-S-transferase)	Polyclonal/ Monoclonal	✓	✓					✓			
MBP (Maltose Binding protein)		Monoclonal	✓	✓									
Trx (Thioredoxin)		Monoclonal	✓										
β-galactosidase		Polyclonal/ Monoclonal	✓	✓	✓	✓							
Luciferase		Polyclonal/ Monoclonal	✓	✓	✓	✓							
Renilla Luciferase		Polyclonal	✓	✓	✓								

Alexa Fluor® is a registered trademark of and licensed under patents assigned to Molecular Probes, Inc. For Research Use Only.

## SMART-IP: Tag Antibodies Conjugated to Magnetic Beads for Immunoprecipitation

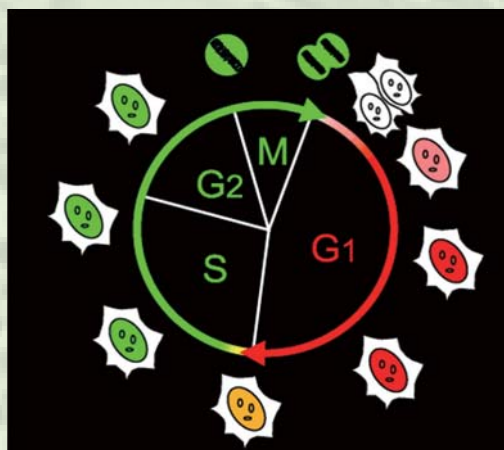
- Eliminates time-consuming centrifugation step
- High recovery of beads
- Complete removal of supernatant



Immunoprecipitation from 293T(1) and HA-tagged Beclin1 expressed in 293T(2) with M132-9. Once immunoprecipitated with the antibody, immunocomplexes were resolved on SDS-PAGE and immunoblotted with 561-7.

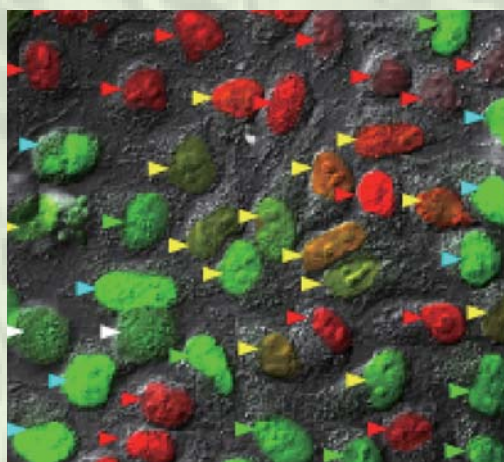
(Code No. M132-9)

Code no.	Product Name	Clone	Isotype	Application
D153-9	anti-GFP magnetic beads	RQ2	rat IgG2a	IPP
D291-9	anti-His-tag magnetic beads	OGHis	mouse IgG2ak	IPP
M047-9	anti-Myc-tag magnetic beads	PL14	mouse IgG1	IPP
M132-9	anti-HA-tag magnetic beads	5D8	mouse IgG1	IPP
M165-9	anti-RFP magnetic beads	3G5	mouse IgG1k	IPP
M167-9	anti-V5-tag magnetic beads	1H6	mouse IgG2ak	IPP



Visualizing the cell cycle: Schematic representation of the fluorescence observed in FUCCI-transfected cells over the cell cycle phases. An orange fluorescent protein marks nuclei in G<sub>1</sub> (shown in red), while a green fluorescent protein marks nuclei in S, G<sub>2</sub> and M in green.

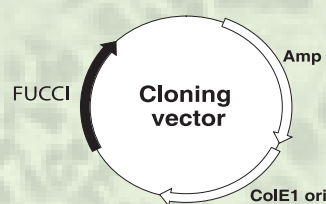
## FUCCI



HeLa cells stably expressing FUCCI-G<sub>1</sub> Orange and FUCCI-S/G<sub>2</sub>/M Green. FUCCI effectively labels individual nuclei in G<sub>1</sub> phase orange and those in S/G<sub>2</sub>/M phase green.

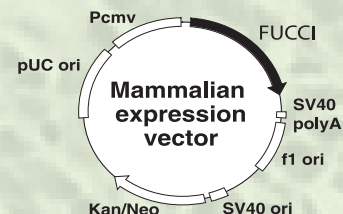
Images courtesy of: Dr. Asako Sakaue-Sawano and Dr. Atushi Miyawaki Laboratory for Cell Function and Dynamics, Advanced Technology Development Group, Brain Science Institute, RIKEN; Life Function Dynamics, ERATO, JST. These images were obtained using the stable cell line in reference (Sakaue-Sawano, A., et al., Cell 132, 487-498 (2008), obtained with modification of Amalgam products.

Data obtained by: Using the stable cell lines in reference (Sakaue-Sawano, A., et al., Cell 132, 487-498 (2008), obtained with modification of Amalgam products.



pFUCCI-G<sub>1</sub> Orange (AM-V9001)

pFUCCI-S/G<sub>2</sub>/M Green (AM-V9014)



pFUCCI-G<sub>1</sub> Orange (AM-V9003)

pFUCCI-S/G<sub>2</sub>/M Green (AM-V9016)

- Used for imaging the spatiotemporal patterns of cell cycle dynamics
- FACS - Sort your cells by cell cycle phase
- *In Vivo* analysis

FUCCI (Fluorescent Ubiquitination-based Cell Cycle Indicator) is a set of fluorescent probes which enable the visualization of cell cycle progression in living cells. FUCCI takes advantage of the fact that the replication licensing factors Cdt<sub>1</sub> and Geminin are only present during specific phases of the cell cycle. A fusion protein of a fragment of Cdt<sub>1</sub> (amino acids 30-120) with the fluorescent protein monomeric Kusabira-Orange 2 (mKO2) serves as an indicator of G<sub>1</sub> phase, while a fusion protein of a fragment of Geminin (amino acids 1-110 or 1-60) with the fluorescent protein monomeric Azami-Green 1 (mAG<sub>1</sub>) visualizes S, G<sub>2</sub> and M phase. The cell cycle indicator takes advantage of the highly selective, rapid degradation of the replication licensing factors, mediated by the ubiquitin-proteasome system.

### Code No.

AM-VS0601  
AM-VS0605  
AM-VS0607  
AM-VS0608

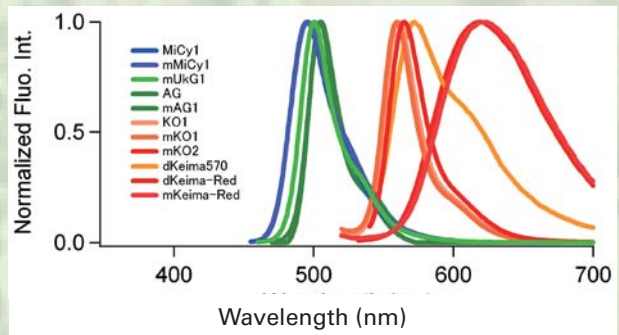
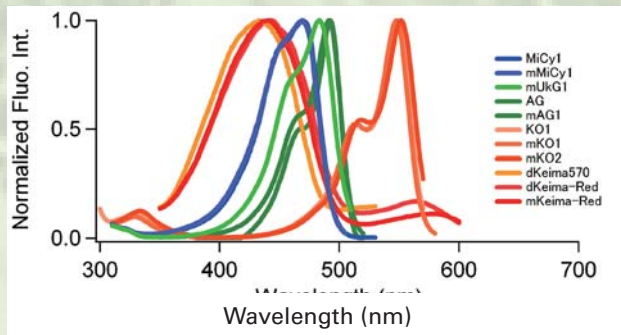
### Product Name

FUCCI Cloning vector set (G<sub>1</sub> Orange + S/G<sub>2</sub>/M Green)  
FUCCI Cloning vector set (G<sub>1</sub> Orange + S/G<sub>2</sub>/M Green(N+C))  
FUCCI Expression vector set (G<sub>1</sub> Orange + S/G<sub>2</sub>/M Green-Hyg)  
FUCCI Expression vector set (G<sub>1</sub> Orange + S/G<sub>2</sub>/M Green (N+C)-Hyg)

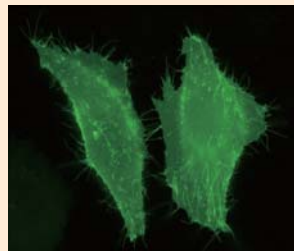
# BASIC FLUORESCENT PROTEINS

Product Name	Color	Excite/Emiss Maximum (nm)	Oligomerization	Brightness*
<b>MiCy1: Midoriishi-Cyan1</b>	Cyan	472/495	Dimer	24.5
<b>mMiCy1: monomeric Midoriishi-Cyan1</b>	Cyan	470/496	Monomer	15.5
<b>mUkG1: monomeric Umikinoko-Green1</b>	Green	483/499	Monomer	43.2
<b>AG: Azami-Green</b>	Green	492/505	Teramer	48.4
<b>mAG1: monomeric Azami-Green1</b>	Green	492/505	Monomer	40.7
<b>KO1: Kusabira-Orange1</b>	Orange	548/561	Dimer	33.2
<b>mKO1: monomeric Kusabira-Orange1</b>	Orange	548/559	Monomer	31
<b>mKO2: monomeric Kusabira-Orange2</b>	Orange	551/565	Monomer	39.6
<b>dKeima570</b>	Orange	440/570	Dimer	2.1
<b>dKeima-Red</b>	Red	440/616	Dimer	7.6
<b>mKeima-Red: monomeric Kerima-Red</b>	Red	440/620	Monomer	3.5

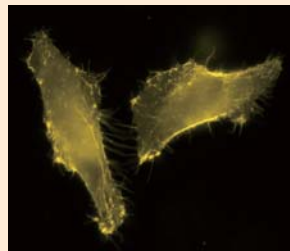
\*Brightness: Molar Extinction Coefficient x Fluorescence Quantum Yield / 1000



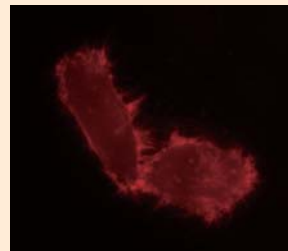
# ORGANELLE TARGETING VECTORS



CoralHue® pPM-mAG1



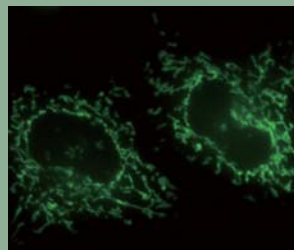
CoralHue® pPM-mKO1



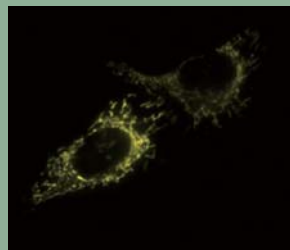
CoralHue® pPM-mKeima-Red



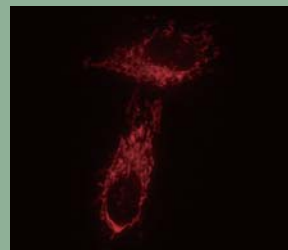
CoralHue® pNP-KO1  
Nucleoplasm



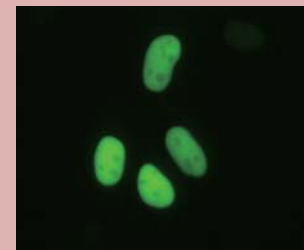
CoralHue® pMT-mAG1



CoralHue® pMT-KO1



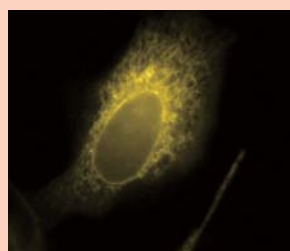
CoralHue® pMT-mKeima-Red



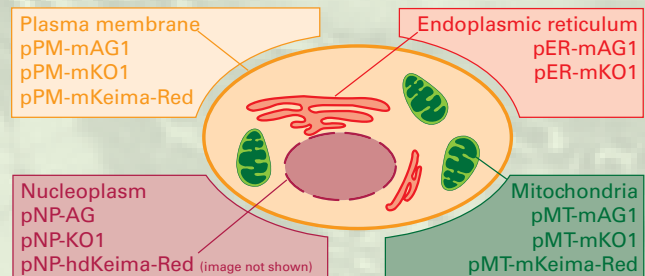
CoralHue® pNP-AG



CoralHue® pER-mAG1



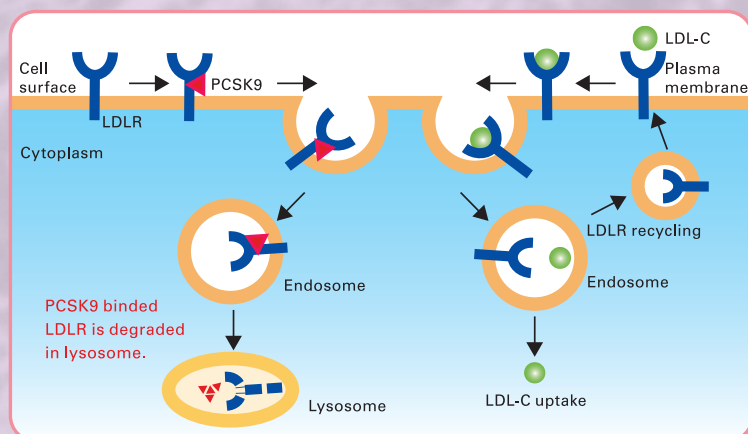
CoralHue® pER-mKO1



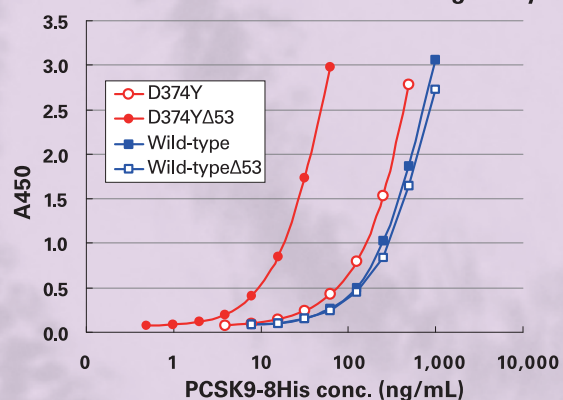
**PCSK9 is an extracellular protein expressed primarily in the kidneys, liver and intestines representing the 9th member of the secretory subtilase family. PCSK9 plays a major role in cholesterol metabolism through posttranslational down-regulation of LDLR, the receptor responsible for clearing LDL-C from plasma. PCSK9 binds directly to first epidermal growth factor-like repeat A (EGF-A) domain of LDLR and is required for LDLR degradation. PCSK9 would seem to be an attractive drug target for lowering LDL-C.**

**References:**

Seidah NG, et al. (2003) Proc Natl Acad Sci USA 100:928–933.; Abifadel M, et al. (2003) Nat Genet 34:154–156.; Leren TP (2004) Clin Genet 65:419–422.; Allard D, et al. (2005) Hum Mutat 26:497.; Cohen JC, et al. (2006) N Engl J Med 354, 1264–1272.; Berge KE, Ose L, Leren TP (2006) Arterioscler Thromb Vasc Biol 26:1094–1100.; Maxwell KN, Breslow JL (2004) Proc Natl Acad Sci USA 101:7100–7105.; Rashid S, et al. (2005) Proc Natl Acad Sci USA 102:5374–5379.; Lagace, T. A., et al. (2006) J. Clin. Investig. 116, 2995–3005.; Cameron, J., et al. (2006) Hum. Mol. Genet. 15, 1551–1558.; Zhang, D. W., et al. (2007) J. Biol. Chem. 282, 18602–18612



**PCSK-LDLR EGF-AB *in vitro* Binding Assay**



**Chitotriosidase is selectively expressed in activated tissue macrophages that accumulates in various tissues of several lysosomal diseases. Elevated levels of serum chitotriosidase were also found in disorders caused by the abnormal activation of immune system, including sarcoidosis and atherosclerosis. Currently it is the only biomarker identified for monitoring the efficacy of the extremely costly enzyme-replacement therapy of Gaucher patients and male Fabry patients. It has been shown that chitotriosidase activity was elevated up to 55-fold in extracts of atherosclerotic tissue, showing a clear connection between chitotriosidase expression and lipid-laden macrophages inside human atherosclerotic vessel wall.**

**References:**

Hollak, C. E., et al. (1994). J. Clin. Invest. 93: 1288.; Aerts, J. M., and Hollak, C. E. (1997) 10: 691.; Vedder, A.C., et al. (2006) Mol. Genet. Metab. 89: 239.; Grosso, S., et al. (2004) Scand. J. Clin. Lab. Invest. 64: 57.; Boot, R.G., et al. (1999) Arterioscler. Thromb. Vasc. Biol. 19: 687. Artieda, M., et al. (2003) Arterioscler. Thromb. Vasc. Biol. 23: 1645.; Labadaridis, J et al. (1998) Acta Paediatr. 87: 605.; Labadaridis, I., et al. (2005) Arch. Dis. Child Fetal Neonatal Ed. 90: F531.

**Code No.**

CY-8079

CY-8150

CY-8050

CY-8074

CY-1249

**Product Name**

CircuLex™ Human PCSK9 ELISA Kit

CircuLex™ PCSK9-LDLR

CircuLex™ Human Adiponectin ELISA Kit

CircuLex™ Human Chitotriosidase ELISA Kit

Cyclex® Chitotriosidase Fluorometric Assay Kit

**Size**

96 well

96 well

96 well

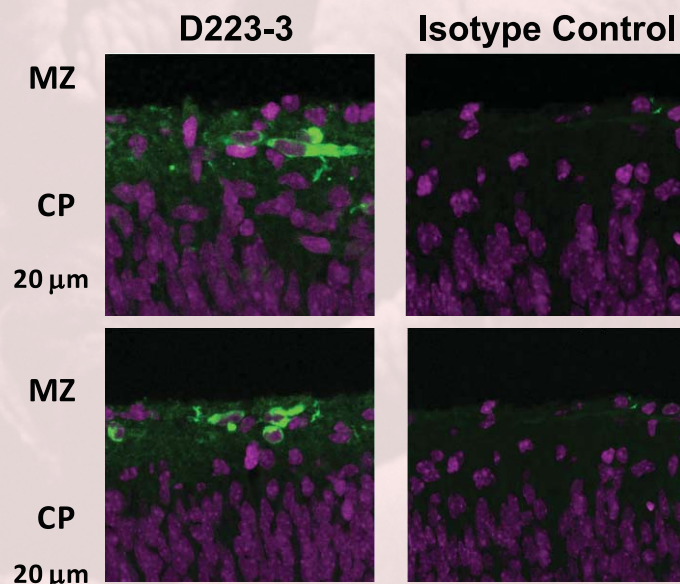
96 well

100 Assay



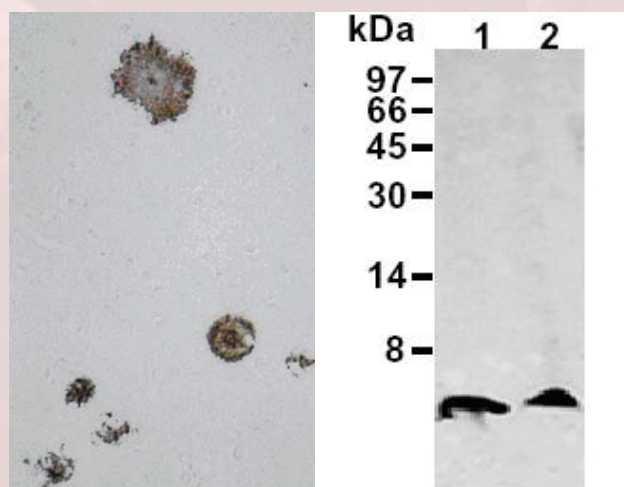
Antigen Target	Application						
	WB	ELISA	IHC	ICC	IPP	FCM	NT
Amphiphysin-1	✓		✓	✓	✓		
Amyloid $\beta$	✓	✓	✓				
ApoA1	✓						
ApoA5	✓	✓					
ApoE	✓		✓		✓		
ApoE2	✓						
ApoE3	✓						
ApoE4	✓		✓		✓		
ApoER2	✓		✓	✓			
Amyloid Precursor Protein	✓		✓				
CAF-1	✓		✓	✓	✓		
DJ-1/PARK7	✓	✓					
Drebrin	✓		✓	✓	✓		
Dynamin	✓				✓		
GFAP	✓		✓	✓			
GFR $\alpha$ 1	✓				✓	✓	
GPR83	✓		✓				
HES1/KNP-1	✓				✓		
5-HTR2C	✓		✓				
M6a	✓					✓	
Nectin-3 (CD113)	✓			✓	✓	✓	
Nestin	✓		✓			✓	
NET1			✓				
Neuropsin	✓		✓	✓	✓		✓
Nucleolin	✓		✓	✓			
p75NTR						✓	
Pax6	✓		✓				
PML	✓			✓	✓		
Reelin/CR-50			✓				
Sema4a					✓	✓	
Sema4D						✓	
Sema6D	✓				✓	✓	
Synaptotagmin	✓				✓		
Synaptophysin	✓		✓				
Synaptotagmin 1	✓						
Synaptotagmin 2	✓				✓		
Syntaxin-1	✓		✓		✓		
Syntaxin-6	✓				✓		
Syntaxin-7			✓				
TrkA	✓		✓		✓		

Neuroscience is the study of the biological process pertaining to the nervous system. MBL International Corporation carries over 7,000 antibodies, proteins, and kits, many of which are related to neuroscience. Popular targets such as ApoE4 and the S100 proteins are commonly used for Alzheimer's, cystic fibrosis and other neurological disease research.



Immunohistochemical detection of Reelin on frozen sections of mouse fetal brain (E18) with D223-3 (left) or isotypic control IgG (right). This data was kindly provided by Professor Kazunori Nakajima and Dr. Ken-ichiro Kubo (Department of Anatomy, Keio University School of Medicine, Tokyo).

(Code No. D223-3)

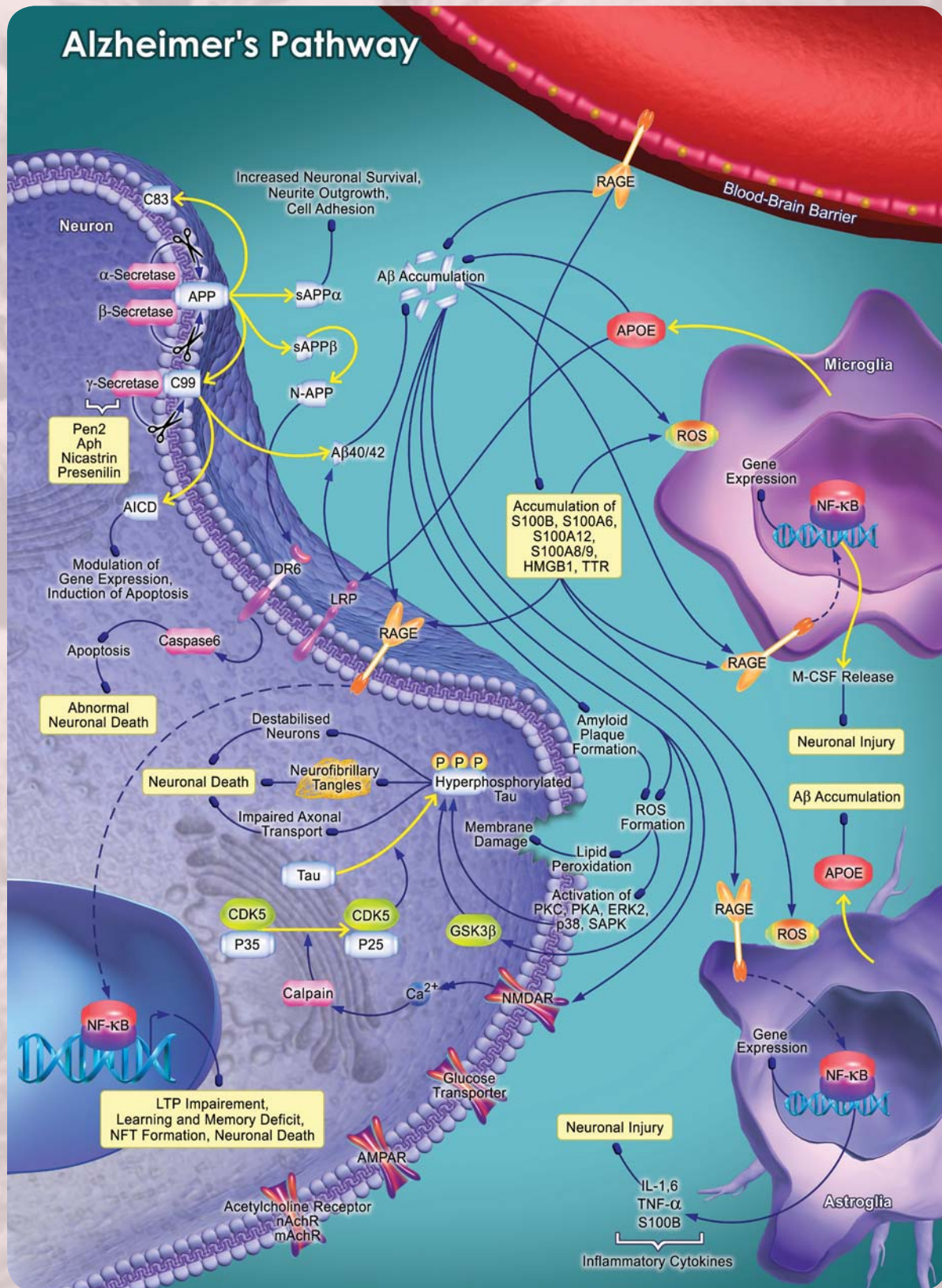


Paraffin section of Alzheimer's disease brain stained with M046-3

Western blot analysis of A $\beta$  1-40 (1) and A $\beta$  1-42 (2) using M046-3

(Code No. M046-3)

S100 proteins are a family of calcium binding proteins, where each member has specific structure and function. S100 proteins have been observed to have a role in various diseases, making these proteins an important marker for disease diagnosis as well as for possible therapeutic targets.



Code No.  
7635  
CY-9050  
CY-8058

Product Name  
ApoE4/Pan-ApoE ELISA Kit  
CircuLex™ DJ-1/PARK7 ELISA Kit  
CircuLex™ S100A12/EN-RAGE ELISA Kit

Size  
96 well  
96 well  
96 well

## INFECTIOUS DISEASE IFA PRODUCTS

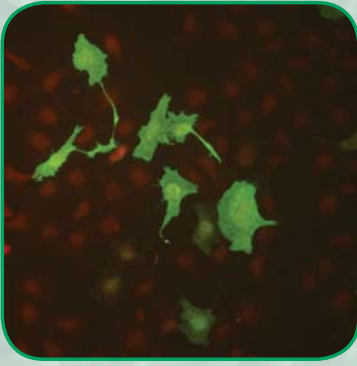
MBL International offers a range of indirect fluorescent antibody assays for the qualitative and/or semi-quantitative determination of specific infectious disease antibodies in human serum. They are intended for use as an aid in the diagnosis of primary infection, reinfection or reactivation of the latent virus as well as a determination of immunological experience and or immune status.

- Most substrate slides can be used for the detection of IgG or IgM antibodies
- Each lot of substrate slides is tested with a panel of titered sera to ensure lot to lot sensitivity
- Viral antigen substrate slides contain both positive and negative cells in each well to provide built-in quality control
- Antigen control slides function as quality control substrates for staining reagents used in direct antigen detection and culture confirmation methodologies.

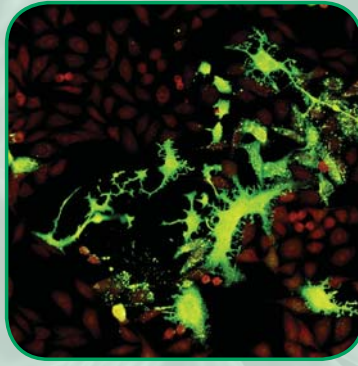
Code No.	Product Name	Format	Size
QAD-3012*	Adenovirus	Control Slide	2-well
CH-4112*	Chlamydia (LGV-1)	Substrate Slide	12-well
CMG-120*	Cytomegalovirus	Test System	120 test
QCM-2002*	Cytomegalovirus	Control Slide	2-well
EB-5012*	Epstein-Barr Virus, VCA	Substrate Slide	12-well
EBG-120*	Epstein-Barr Virus, VCA, IgG	Test System	120 test
HS2-4012*	Herpes Simplex II	Substrate Slide	12-well
HS1-3012*	Herpes Simplex I	Substrate Slide	12-well
QHS-3504*	Herpes Simplex I and II	Control Slide	4-well
HS1G-120*	Herpes Simplex I, IgG	Test System	120 test
HS2G-120*	Herpes Simplex II, IgG	Test System	120 test
QAB-1504*	Influenza A and B Virus	Control Slide	4-well
ME-6012*	Measles (Rubeola) Virus	Substrate Slide	12-well
MEG-120*	Measles (Rubeola) Virus, IgG	Test System	120 test
MU-8012*	Mumps Virus	Substrate Slide	12-well
MUG-120*	Mumps Virus, IgG	Test System	120 test
QRP-6314*	Respiratory Panel	Control Slide	14-well
QRS-9002*	Respiratory Syncytial Virus	Control Slide	2-well
VZ-7012*	Varicella Zoster Virus	Substrate Slide	12-well
QVZ-7002*	Varicella Zoster Virus	Control Slide	2-well

\* FDA cleared

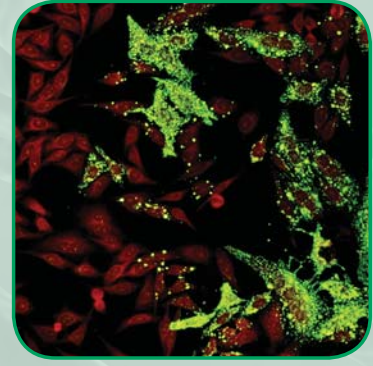
**IMMUNOFLUORESCENT STAINING PATTERNS**



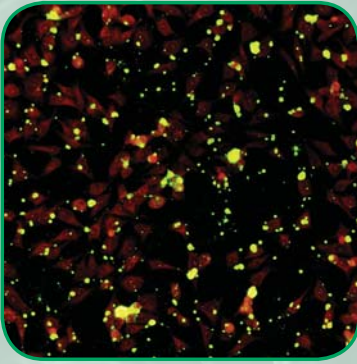
**Influenza B**



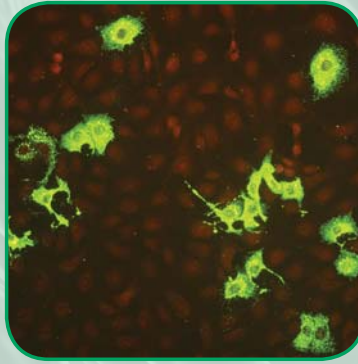
**Measles (Rubeola)**



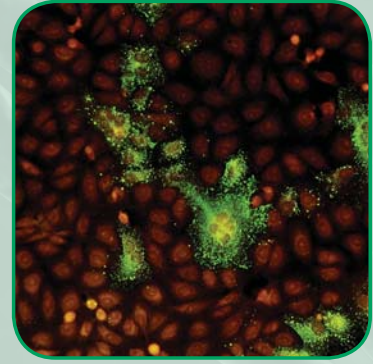
**Mumps**



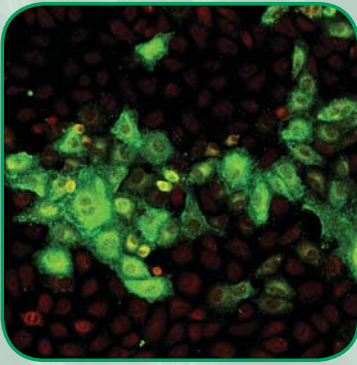
**Mycoplasma pneumoniae**



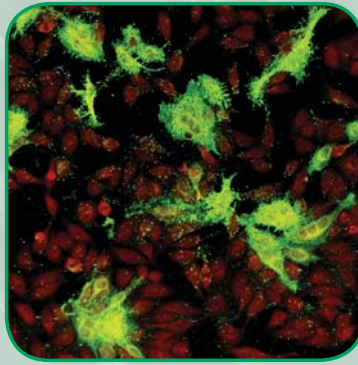
**Parainfluenza 1**



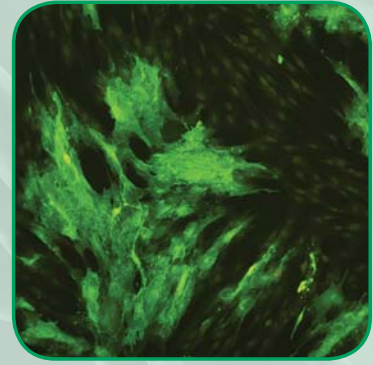
**Parainfluenza 2**



**Parainfluenza 3**



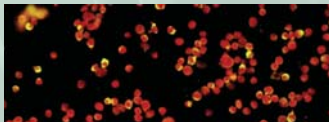
**Respiratory Syncytial Virus**



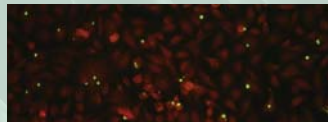
**Varicella Zoster**

**Products for Research Use Only**

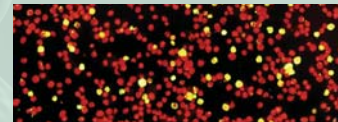
Not for use in Diagnostic Procedures



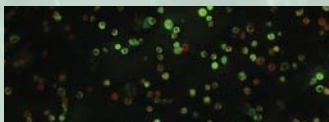
**Bartonella henselae**



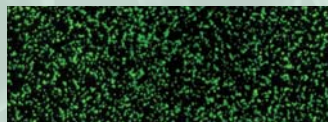
**Chlamydia pneumoniae (TWAR)**



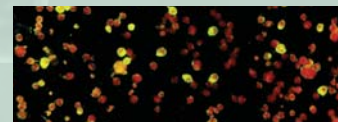
**EB Early Antigen, Diffuse**



**EB Early Antigen, Restricted & Diffuse**



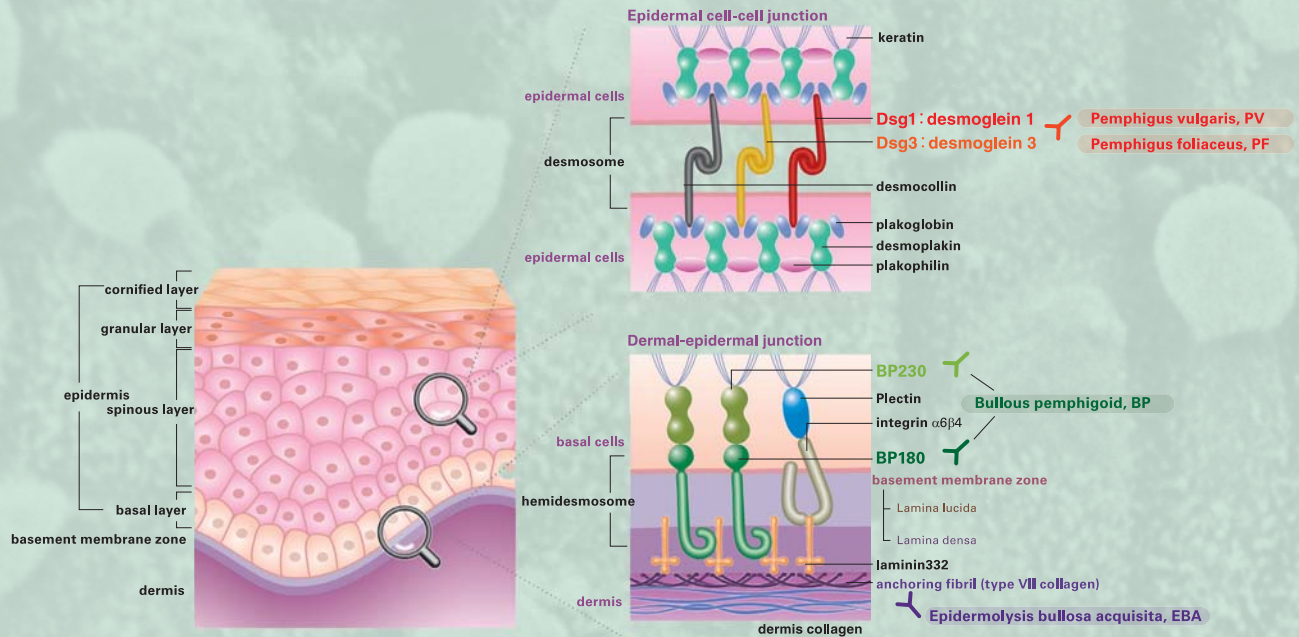
**Helicobacter pylori**



**Human Herpesvirus 6**



## SKIN BLISTERING DISEASE



**Pemphigus** is an autoimmune blistering disease that targets skin and mucous membrane, caused by autoantibodies to cell surface antigens of stratified epithelia of mucous membranes and skin. These antibodies bind to calcium dependent adhesion molecules in cell surface desmosomes, notably desmoglein 1 (Dsg1) in PF and desmoglein 3 (Dsg3) in PV. Pemphigus patients with both mucosal and skin lesions have antibodies to both Dsg1 and Dsg3.

**Bullous Pemphigoid (BP)** is an autoimmune disease of the skin and mucous membranes. Skin lesions of BP patients show separation of basal keratinocytes from the underlying dermis leading to subepidermal blisters. Patients with BP have circulating IgG autoantibodies against components of hemidesmosome, and target two distinct molecules, BP230 and BP180. BP180 is considered the target molecule to which pathogenic IgG autoantibodies bind.

**Epidermolysis Bullosa Acquisita (EBA)** is a chronic subepidermal blistering disease of the skin and mucous membranes. EBA is characterized by the presence of (IgG) antibodies targeting the NC1 domain of Type VII collagen. MBLI has developed a highly specific, highly sensitive ELISA kit for the detection of the NC1 and NC2 domain of Type VII Collagen.

- **Highly Specific >98%**
- **Parallel fluctuation with disease activity**
- **High Sensitivity**
- **Economical breakaway strips**

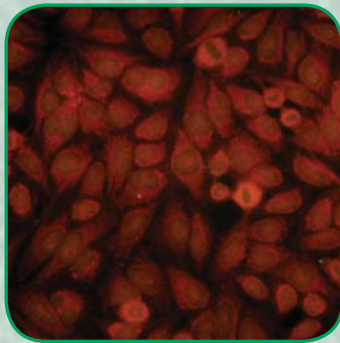
Code No.	Product Name	Application	Size
RG-M7593-D*	MESACUP® Dsg-1 & 3	ELISA	48 well
RG-M7612-D*	MESACUP® BP180	ELISA	48 well
RG-M7613-D*	MESACUP® BP230	ELISA	48 well
RG-7845R	Type VII Collagen ELISA	ELISA	48 well

\* FDA cleared

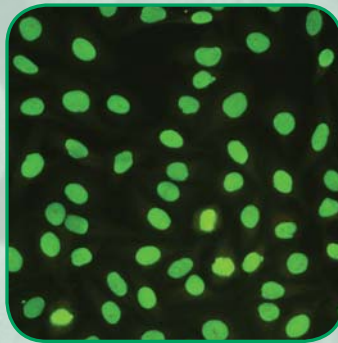
**Antinuclear Antibodies (ANA's)**

Antinuclear antibodies (ANA's) are a group of autoantibodies characterized by specificity for numerous antigenic determinants of cell nuclei. Considered the "Gold Standard", the ANA test systems and substrate slides are based on an indirect fluorescent antibody assay utilizing HEp-2 tissue culture cells as a substrate for the qualitative and/or semi-quantitative determination of antinuclear antibodies in human serum.

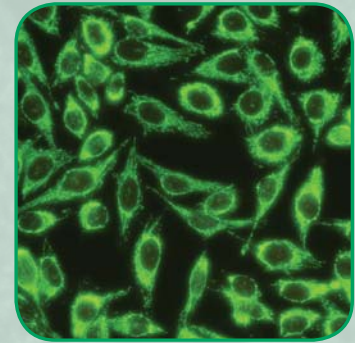
- Each lot is tested with a panel of titered control sera to ensure sensitivity from lot to lot and detection of low titered specific antibodies
- Screens for a wide range of autoantibodies: offers insight through pattern recognition into probable identity of antigen and associated autoimmune disorder
- 24-month expiration date from date of manufacture
- IFA Diluent improves the readability without affecting endpoint titers



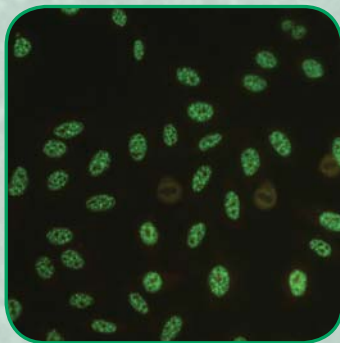
**Negative**



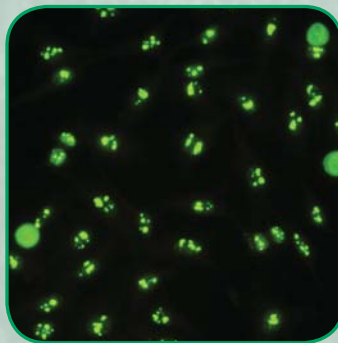
**Positive (Homogeneous)**



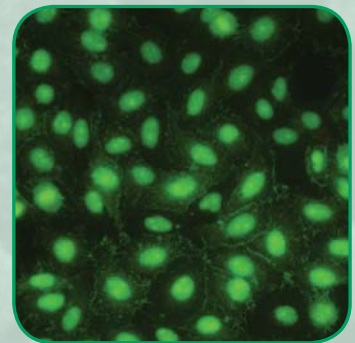
**Positive (Mitochondrial)**



**Positive (Speckled)**



**Nucleolar**



**Positive (SCL-70)**

Code No.	Product Name	Application	Size
ANK-120*	ANA (HEp-2) Test System	IFA	120 test
AN-1012*	Antinuclear Antibody (HEp-2) slide	IFA	12 well
RG-7991EC-D*	CENP-B (MESACUP®-2)	ELISA	96 well
RG-7808	DFS70 Antibody Detection Kit	ELISA	96 well
RG-4730E	Fluoro ANCA Test	IFA	60 well
DIL-9993/9994/9995*	IFA Diluent	IFA	60/125/250 mL
RG-7981EC-D*	Jo-1 (MESACUP®-3)	ELISA	96 well
RG-M7805E-D*	RNA Polymerase III	ELISA	96 well
RG-7941EC-D*	RNP (MESACUP®-2)	ELISA	96 well
RG-7971EC-D*	Scl-70 (MESACUP®-3)	ELISA	96 well
RG-7931EC-D*	SM (MESACUP®-3)	ELISA	96 well
RG-7951EC-D*	SS-A (MESACUP®-2)	ELISA	96 well
RG-7961EC-D*	SS-B (MESACUP®-3)	ELISA	96 well

\* FDA cleared



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ANTIBODIES											
Code No.	Antigen Target	Application	Species Reactivities	Code No.	Antigen Target	Application	Species Reactivities	Code No.	Antigen Target	Application	Species Reactivities
D147-3	Abi1/E3B1	WB, IPP, IHC	Hu, Mo, Ha	K0147-3	CD163	FCM	Hu	LS-A70	EDG6	IHC	Hu
LS-A7773	ADAMTS4	IHC	Hu	K0147-4	CD163-FITC	FCM	Hu	LS-A3802	EDG8	IHC	Hu
LS-A946	ADCYAP1R1	IHC	Hu	K0044-4	CD166-FITC	FCM	Hu	LS-A4073	EDNRA	IHC	Hu
LS-A948	ADCYAP1R1	IHC	Hu	M096-3	CD170	IPP, FCM	Mo	LS-A54	EDNRB	ICC, IHC, WB	Hu
LS-A1239	ADORA2A	IHC, ICC	Hu	M096-4	CD170 (FITC)	IPP, FCM	Mo	MI-12-1	EGF	WB, IPP, ICC, FCM	Hu
LS-A12	ADRA1D	IHC	Hu	K0110-3	CD172a/SIRPa	FCM	Hu	RN001P	BF4E	WB, IPP, RIP	Hu, Mo, Rt, Ha
LS-A2656	ADRB2	IHC, ICC	Hu	D230-3	CD274/PD-L1	IHC, FCM	Hu	RN002P	BF4G1	WB, IPP, RIP	Hu
LS-A2663	ADRB2	IHC	Hu	D092-3	CD274/PD-L1	FCM	Hu	RN004P	ELAVL1/HuR	WB, IPP, RIP	Hu, Mo, Rt, Ha
LS-A4198	ADRB3	IHC	Hu	M169-A48	CD304 (Alexa Fluor®488)	FCM	Mo	LS-A1180	EMR1	IHC	Hu
LS-A4196	ADRB3	IHC	Hu	D204-5	CD52-CAMPATH-1 (PE)	FCM	Mo	LS-A5402	ESRRA	IHC	Hu
D190-3	Aggrus/Podoplanin	WB, IPP, FCM	Mo	D263-3	CD63	WB, FCM	Mo	LS-A7128	ESRRB	IHC	Hu
LS-A64	AGTRL1	IHC	Hu	K0070-3	CDC7	WB, IPP, IHC	Hu	LS-A2583	F2R	IHC	Hu
M009-3	Amyloid Precursor	WB	Hu, Mo	LS-A2736	CELSR3	IHC	Hu	LS-A252	F2RL1	IHC	Hu
M046-3	Amyloid $\beta$	WB, IHC	Hu, Mo	D115-3	CENP-A	WB, IHC, ICC, ChIP	Hu	D061-3	FAK	WB, IPP, ICC	Hu, Mo, Rt, Ha
M068-3	ApoE	WB, IPP	Hu	LS-A1330	CHRM2	IHC	Hu	SY-001	Fas	FCM, WB	Hu
M067-3	ApoE4	WB, IPP, IHC	Hu	LS-A5378	CHRM3	IHC	Hu	MD-11-3	Fas	WB, FCM, NT	Hu
D086-3	ASC	WB, IPP, ICC, IHC	Hu	LS-A448	CMKLR1	IHC	Hu	LS-A1578	FFAR2	IHC	Hu
MS-20-3	Ash/Grb-2	WB, IF	Hu, Mo, Rt	CY-M1028	CML	IF, ELISA		LS-A6599	FFAR2	IHC	Hu
PD026	Atg14	WB, IPP	Hu, Mo, Rt	LS-A31	CNR1	ICC, IHC	Hu	K0055-3	FHL2	WB, IPP, IHC	Hu, Mo
PM040	Atg16L	WB, IPP, ICC	Hu, Mo, Rt, Ha	CY-M1024	CPI-17	WB, ELISA	Hu, Mo, Rt	D162-3	Flavocytochrome b558	FCM	Hu
M150-3	Atg16L	WB	Hu, Mo, Rt	LS-A1778	CRHR1	IHC	Hu	D162-4	Flavocytochrome b558 (FITC)	FCM	Hu
M134-3	Atg4B	WB	Hu, Mo, Rt, Ha	LS-A3570	CRHR2	IHC, WB	Hu	D162-5	Flavocytochrome b558 (PE)	FCM	Hu
PM050	Atg5	WB	Hu, Mo, Rt	D070-3	CX3CR1	FCM	Hu	LS-A1878	FPRL1	IHC	Hu
M153-3	Atg5	WB	Hu, Mo, Ha	D070-4	CX3CR1 (FITC)	FCM	Hu	LS-A2231	FSHR	IHC	Hu
PM039	Atg7	WB, IPP	Hu	D070-5	CX3CR1 (PE)	FCM	Hu	LS-A4437	FZD3	IHC	Hu
LS-A273	AVPR2	IHC	Hu	LS-A1374	CXCR3	IHC	Hu	LS-A4482	FZD6	IHC	Hu
LS-A799	BDKRB1	IHC	Hu	LS-A1380	CXCR4	IHC	Hu	LS-A4899	FZD7	IHC	Hu
LS-A3580	BDKRB1	IHC	Hu	LS-A1376	CXCR4	IHC	Hu	PM037	GABARAP	WB, ICC	Hu, Mo, Rt, Ha
PD017	Beclin 1	WB, IPP, ICC	Hu, Mo, Rt, Ha	D123-4	CXCR4 (FITC)	FCM	Hu	M135-3	GABARAP	WB	Hu, Mo, Rt, Ha
PD021	Beta 5t	WB, IPP, ICC, IHC	Mo	LS-A1384	CXCR5	IHC	Hu	M018-3	GAD	WB, IHC	Hu, Rt
M094-3	beta-Galactosidase	WB, IPP, ICC, IHC		LS-A1385	CXCR5	IHC	Hu	M057-3	GAK	WB	Hu, Mo, Rt
M147-3	Borealin	WB, IPP, ICC	Hu	LS-A1893	CXCR7	IHC, FCM	Hu	LS-A4105	GALR1	IHC	Hu
MI-11-3	BrdU	ICC, IHC, FCM	Hu	K0223-5	CXCR7 (PE)	FCM	Hu	LS-A4154	GALR2	IHC	Hu
D036-3	BST-1/CD157	FCM	Hu	K0223-3	CXCR7/RDC1 (9C4)	IHC, FCM	Hu	PM038	GATE-16	WB	Hu, Mo, Rt, Ha
LS-A766	CALCR	IHC	Hu	MD-17-3	Cyclin D1	WB, IPP, ICC, IHC, FCM	Hu, Mo	LS-A4257	GCGR	IHC	Hu
LS-A771	CALCR	IHC	Hu	LS-A1317	CYSLTR1	IHC	Hu	598	GFP	WB, IPP, ICC, IHC, ChIP	
LS-A6731	CALCRL	IHC	Hu	PM018	Derlin-1	WB, IPP, ICC	Hu, Mo	M048-3	GFP	WB, IPP, ICC, IHC	
LS-A6755	CALCRL	IHC	Hu	D219-3	Desmoglein-3	IPP, ICC, IHC	Hu, Mo	D153-3	GFP	IPP, ICC	
M029-3	Caspase 4	WB	Hu	D218-3	Desmoglein-3	IPP, ICC, IHC	Hu, Mo	D153-8	GFP (Agarose Beads)	IPP	
M059-3	cas p ase-10	WB	Hu	D187-3	Dlk/Pref-1	FCM, IHC	Mo	598-7	GFP (HRP Direct-T)	WB	
M070-3	cas p ase-6	WB, ICC	Hu, Rt	D187-4	Dlk/Pref-1 (FITC)	FCM	Mo	D153-9	GFP (Magnetic Beads)	IPP	
M032-3	cas p ase-8	WB	Hu	D187-5	Dlk-Pref-1 (PE)	FCM	Mo	M143-3	GFR alpha 1	IPP, FCM	Hu
M054-3	cas p ase-9	WB	Hu, Mo, Rt	LS-A44	DRD1	IHC	Hu	M142-3	GFR alpha 1	WB	Hu
LS-A1425	CASR	IHC	Hu	LS-A1407	DRD5	IHC	Hu	LS-A6576	GHSR	IHC	Hu
LS-A1427	CASR	IHC	Hu	D029-3	Drebrin	WB, IPP, ICC, IHC	Hu, Mo, Rt, Bo, Ch, Cat, Rb	LS-A3842	GIPR	IHC	Hu
LS-A356	CCR6	IHC	Hu	D193-3	Ealectin/Galectin-9	FCM, ELISA	Hu	LS-A1253	GIPR	IHC, ICC	Hu
D074-3	CCR7	FCM	Hu	D192-3	Ealectin/Galectin-9	FCM, ELISA	Hu	LS-A1205	GLP1R	IHC	Hu
LS-A1093	CCRL2	IHC	Hu	LS-A1013	EDG1	IHC	Hu	LS-A1209	GLP1R	IHC	Hu
M100-3	CD11c	IPP, FCM	Mo	LS-A1012	EDG1	IHC	Hu	LS-A1208	GLP1R	IHC	Hu
D051-4	CD154 (FITC)	FCM	Hu	LS-A212	EDG2	IHC	Hu	LS-A1312	GLP2R	WB, ICC, IHC	Hu
D174-4	CD155 (FITC)	FCM	Hu	LS-A211	EDG2	IHC	Hu	D278-3	GP2	ICC, IHC, FCM	Mo
K0122-1	CD160	IPP, FCM	Hu	LS-A1031	EDG3	IHC	Hu	D277-3	GP2	ICC, IHC, FCM	Hu

# FEATURED PRODUCTS

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ANTIBODIES											
Code No.	Antigen Target	Application	Species Reactivities	Code No.	Antigen Target	Application	Species Reactivities	Code No.	Antigen Target	Application	Species Reactivities
LS-A1936	GPBAR1	IHC	Hu	LS-A1111	HTR2B	IHC	Hu	D199-3	MFG-E8	WB, IHC	Mo
D087-3	GPI-80	WB, FCM	Hu	LS-A656	HTR4	IHC	Hu	D161-3	MFG-E8	IPP, FCM	Mo
D087-5	GPI-80 (PE)	FCM	Hu	LS-A655	HTR4	IHC	Hu	K0218-3	MICA/B	IPP, FCM, ELISA	Hu
LS-A1922	GPR103	IHC	Hu	K0031-4	HVEM (FITC)	FCM	Hu	D238-3	MORC3 (17A9)	WB, ICC	Hu, Mo, Rt
LS-A179	GPR109B	IHC, ICC	Hu	RN007P	IGF2BP1/IMP1	RIP, WB, IPP	Hu, Mo	BMP004	mSIN3A	WB, IPP, ICC, IHC	Hu, Mo, Rt, Ha
LS-A2019	GPR110	IHC	Hu	RN001M	IGF2BP1/IMP1	RIP, WB, IPP	Hu, Mo	D233-3	MSLN	FCM	Mo
LS-A1519	GPR116	IHC	Hu	RN008P	IGF2BP2/IMP2	RIP, WB, IPP	Hu, Mo, Rt	D053-5	MSLN (PE)	FCM	Mo
LS-A548	GPR119	IHC	Hu	RN009P	IGF2BP3/IMP3	RIP, WB, IPP	Hu, Mo	LS-A932	MTNR1B	IHC	Hu
LS-A2004	GPR120	IHC	Hu	D044-3	IL-18	IPP, NT, ELISA	Hu	D270-3	Musashi-1	WB, IHC	Hu, Mo, Rt
LS-A401	GPR176	IHC	Hu	D048-3	IL-18	IPP, NT	Mo	562-5	Myc	WB, IPP, ICC	
LS-A1895	GPR23	IHC, FCM	Hu	D047-3	IL-18	IPP	Mo	M047-3	Myc	WB, IPP, ICC	
LS-A4271	GPR30	IHC, IF	Hu	D045-3	IL-18	IPP	Hu	M047-8	Myc (Agarose Beads)	IPP	
LS-A1184	GPR30	IHC, FCM, IF	Hu	D043-3	IL-18	WB, IHC	Hu	M047-A48	Myc (Alexa Fluor®488)	ICC, FCM	
LS-A4290	GPR30	IHC, WB, IF	Hu	D046-3	IL-18	WB	Mo	M047-A59	Myc (Alexa Fluor®594)	ICC	
LS-A1183	GPR30	IHC, WB, IF	Hu	PM014	IL-18	WB, IHC	Hu	M047-9	Myc (Magnetic Beads)	IPP	
LS-A4889	GPR32	IHC	Hu	M157-3	IL-18	WB	Mo, Rt	D164-3	Neu3	WB, IPP, IHC	Hu
LS-A139	GPR39	IHC	Hu	D045-6	IL-18 (Biotin)	ELISA	Hu	LS-A2459	NR1D2	IHC	Hu
LS-A141	GPR39	IHC	Hu	D048-6	IL-18 (Biotin)	ELISA	Mo	LS-A2341	NR4A3	IHC	Hu
LS-A3530	GPR44	IHC, ICC	Hu	PM033	IL-33	IHC	Hu	LS-A5377	NR5A1	IHC	Hu
LS-A6817	GPR55	IHC	Hu	K0046-3	Integrin $\alpha 7$	FCM, ICC	Mo	LS-A2566	NR5A2	IHC	Hu
LS-A169	GPR6	IHC	Hu	K0046-4	Integrin $\alpha 7$ (FITC)	FCM	Mo	LS-A938	NTSR1	IHC	Hu
LS-A1580	GPR87	IHC	Hu	K0046-5	Integrin $\alpha 7$ (PE)	FCM	Mo	M019-3	Nucleolin	WB, ICC, IHC, FCM	Hu
LS-A1584	GPR87	IHC	Hu	K0159-3	I $\kappa$ B kinase $\gamma$	WB, IPP, IHC	Hu, Mo, Rt	LS-A228	OPRK1	IHC	Hu
LS-A3724	GPR97	IHC	Hu	LS-A1927	KISS1R	IHC	Hu	LS-A1854	OR51E1	IHC	Hu
LS-A2576	GPRC6A	IHC	Hu	LS-A1929	KISS1R	IHC	Hu	LS-A6332	OR51E2	IHC	Hu
K0020-1	Granulocytes	IHC	Hu	LS-A1926	KISS1R	IHC	Hu	D059-3	OSMR	FCM	Mo
D184-3	Granulysin (RB1)	IPP, ICC, FCM	Hu	CY-M1020	Lats2	WB, ELISA	Hu	D126-3	OX40L/CD252	FCM	Hu
LS-A882	GRM1	IHC	Hu	PM036	LC3	WB, IPP, ICC, IHC, FCM	Hu, Mo, Rt, Ha	LS-A244	OXTR	IHC	Hu
LS-A892	GRM2	ICC, IHC, WB	Hu	PD014	LC3	WB	Hu, Mo, Rt, Ha	LS-A3786	P2RY1	IHC	Hu
LS-A3208	GRM3	ICC, IHC, WB	Hu	M115-3	LC3	WB	Hu, Mo, Rt	LS-A3742	P2RY12	ICC, IHC	Hu
LS-A4655	GRM6	IHC	Hu	PD015	LC3	ICC	Mo, Rt	LS-A1622	P2RY13	IHC	Hu
LS-A921	GRM7	IHC	Hu	PM046	LC3	WB, ICC	Hu, Mo, Rt, Ha	LS-A1486	P2RY14	ICC, IHC, WB	Hu
LS-A923	GRM8	IHC	Hu	M152-3	LC3	WB, IPP, ICC, FCM	Hu, Mo, Rt, Ha	D243-3	p53	WB	Hu
LS-A830	GRPR	IHC	Hu	LS-A1236	LGR5	IHC	Hu	D244-3	p53	WB	Hu
LS-A831	GRPR	IHC, ICC	Hu	LS-A1235	LGR5	IHC	Hu	PM045	p62/SQSTM1	WB, IPP, ICC, IHC	Hu, Mo, Rt, Ha
312	GST	WB, IHC	Hu	LS-A442	LGR6	IHC	Hu	M162-3	p62/SQSTM1	WB, IPP, ICC, IHC	Hu
311	GST	WB, IHC	Hu, Mo, Rt	LS-A1434	LHCGR	IHC	Hu	LS-A6942	PAK6	IHC	Hu
561-8	HA (Agarose Beads)	IPP		LS-A1436	LHCGR	IHC	Hu	M084-4	PCLP1 (FITC)	FCM	Hu
561-7	HA (HRP Direct-T)	WB		D118-3	Liv2	IHC, FCM	Mo	D072-5	PCLP1 (PE)	FCM	Mo
M132-9	HA (Magnetic Beads)	IPP		LS-A1494	LTBR	IHC	Hu	CY-M1033	PCSK9	WB, IPP	Hu
D134-3	HES1	WB, IPP, ICC, IHC	Mo, Rt	PM016	Luciferase	WB, IPP, IHC, ICC	Luciferase	CY-M1032	PCSK9	WB, IPP	Hu
D291-9	His (Magnetic Beads)	IPP		D160-4	Ly49Q (FITC)	FCM	Mo	CY-P1037	PCSK9	WB, IPP	Hu
D226-3	HLA class I	WB, IHC	Hu	LS-A9857	LYPD3	IHC	Hu	K0143-3	Pendrin	IHC	Hu
K0208-4	HLA-A24 (FITC)	FCM	Hu	D225-3	LYVE-1	IHC, FCM	Mo	MD-06-3	PI3 Kinase	WB, ICC, IPP	Hu, Mo, Rt
K0208-5	HLA-A24 (PE)	FCM	Hu	D279-3	M Cell	WB, IPP, FCM, IHC	Mo	LS-A9790	PIGR	IHC	Hu
M137-3	HMGB1	WB	Hu, Mo, Rt	D055-3	M6a	IHC, FCM	Mo	D145-3	PIP3	Dot Blot	
D090-3	HMGB1/2	WB	Hu, Mo, Rt	K0167-3	MAD-2	WB, IPP	Hu, Mo, Rt	M041-3	PML	WB, IPP, ICC, FCM	Hu
PM017	HRF/TCTP	WB, IHC	Hu, Mo, Rt	LS-A1531	MAS1	IHC	Hu	M156-3	pro-IL-18	WB	Hu, Mo
M099-3	HRF/TCTP	WB, IHC	Hu, Mo, Rt	CY-P1025	MBS	WB, ELISA	Hu, Mo, Rt, Ch	LS-A6684	PROKR1	IHC	Hu
LS-A1176	HRH2	IHC	Hu	CY-M1011	MBS/MYPT1	WB, ELISA	Hu, Mo, Rt, Ch	D031-3	Proton pump a subunit	WB, IPP, IHC	Hu, Mo, Rt, Bo
LS-A3775	HRH4	IHC	Hu	LS-A1039	MC1R	IHC	Hu	D032-3	Proton pump b subunit	WB, IPP, IHC	Hu, Mo, Rt, Bo
LS-A598	HTR1B	IHC	Hu	LS-A1040	MC1R	IHC	Hu	K0142-3	PSMA	FCM	Hu

ANTIBODIES (contd)												
Code No.	Antigen Target	Application	Species Reactivities	Code No.	Antigen Target	Application	Species Reactivities	Code No.	Antigen Target	Application	Species Reactivities	
K0142-4	PSMA (FITC)	FCM	Hu	PD029	Sendai Virus	WB, ICC	Sendai Virus	K0137-3	TAP2	WB, IPP, IHC	Hu	
K0142-5	PSMA (PE)	FCM	Hu	CY-P1016	SIRT1	IPP, ICC	Hu	K0028-3	TCL1 (27D6/20)	WB, IHC, FCM	Hu	
LS-A3279	PTGDR	IHC	Hu	BMP079	SLC17A9	IHC, FCM		LS-A7401	TNK	ICC, IHC	Hu	
LS-A971	PTGER2	IHC	Hu	BMP024	SLC1A7	WB, IHC, ICC, FCM	Hu	RN033P	TNRC6A	RIP, WB, IPP	Hu	
LS-A3898	PTGER4	ICC, IHC	Hu	BMP056	SLC7A10	IHC, ICC, FCM	Hu	592	TRAF2	WB	Hu, Mo	
LS-A3890	PTGER4	IHC	Hu	LS-A2668	SMO	IHC, WB	Hu	597	TRAF6	WB, IPP	Mo	
LS-A1049	PTGFR	ICC, IHC	Hu	K0175-3	SOCS1	WB	Mo	LS-A1198	TRHR	IHC	Hu	
M050-3	RCC1	WB, IPP, ICC	Hu, Mo, Rt	K0175-6	SOCS1 (Biotin)	WB	Mo	LS-A3372	TRB3	IHC	Hu	
PD009	Rck/p54	WB, IHC	Hu, Mo, Rt	K0177-3	SOCS3	WB	Mo	LS-A8581	TRPV4	IHC	Hu	
D223-3	Reelin/CR-50	IHC	Mo	K0179-3	SREBP-1	WB, IPP	Hu	MK-12-3	Ubiquitin	WB, IPP, ICC	Hu, Mo, Rt, Bo	
PM047	Renilla Luciferase	WB, IPP, ICC		LS-A996	SSTR1	IHC	Hu	D058-3	Ubiquitin	WB	Hu	
M155-3	RFP	WB, ICC		LS-A994	SSTR1	IHC	Hu	D071-3	Ubiquitin	WB	Hu	
PM005	RFP	WB, ICC, IHC		LS-A998	SSTR2	IHC	Hu	MK-11-3	Ubiquitin	WB	Hu, Bo	
M165-8	RFP (Agarose Beads)	IPP		LS-A1001	SSTR2	IHC	Hu	D058-8	Ubiquitin (Agarose Beads)	IPP	Hu	
LS-A1052	RHO	IHC	Hu	LS-A2622	SSTR3	IHC	Hu	M160-3	UVRAG	WB, IPP	Hu, Mo, Rt, Ha	
D139-3	Ring1b	WB, IPP	Hu, Mo, Ha	LS-A4148	SSTR4	IHC	Hu	PM003	V5	WB, IPP		
LS-A2374	RORB	IHC	Hu	LS-A2639	SSTR5	IHC	Hu	M167-3	V5	WB, IPP, ICC		
LS-A5214	RORC	IHC	Hu	D067-3	ST2	WB, IPP, FCM	Hu	M167-9	V5 (Magnetic Beads)	IPP		
LS-A5188	RORC	IHC	Hu	D066-3	ST2	WB, IPP, FCM, ELISA	Hu	K0205-3	VDUP-1/Txnip	WB, IPP, IHC	Hu, Mo, Rt	
PD027	Rubicon	WB, IPP	Hu	D065-3	ST2	WB, IPP, IHC, FCM	Hu	K0204-3	VDUP-1/Txnip	WB, IPP	Hu, Mo	
D130-3	Rumx2/Cbfa1	WB, IPP, ICC	Hu, Mo	D067-4	ST2 (FITC)	WB, IPP, FCM	Hu	D076-3	Vimentin	WB, ICC, ELISA	Hu, Mo, Rt	
LS-A566	RXFP1	IHC	Hu	D067-5	ST2 (PE)	WB, IPP, FCM	Hu	D095-3	Vimentin	WB, ICC	Hu, Mo, Rt	
D221-3	SAP155	WB, IPP, ICC	Hu, Mo	RN012P	STAU1	WB, IPP, RIP	Hu	563	VSV-G	WB, ICC		
K0090-3	Securin/PDS-1	WB, IPP, ICC, IHC	Hu, Mo, Rt	M114-3	SUMO-2/3	WB, ICC	Hu, Mo, Rt	M044-3	XIAP	WB	Hu, Mo, Rt	
M061-3	Selenium Binding Protein	WB, IHC	Hu, Mo, Rt	CM004-3	SynCAM/TSLC1	WB, IPP, ICC, IHC, FCM	Hu, Mo	LS-A2672	XPR1	ICC, IHC	Hu	
D152-3	Sema4a	IPP, FCM	Hu, Mo	LS-A2041	TAAR1	IHC, WB	Hu					
KITS												
Code No.	Product Name	Code No.	Product Name	Code No.	Product Name							
8450	Acetylcholinesterase Rapid Staining Kit	CY-8066	CircuLex™ CML/Ne-(carboxymethyl) lysine ELISA Kit	CY-8150	CircuLex™ PCSK9-LDLR							
CY-1168	CycLex® AKT/PKB kinase Assay/Inhibitor Screening Kit	CY-1175	CycLex® Protein Kinase C Superfamily Assay Kit	CY-7051	CycLex® Phospho-p53 Ser392 ELISA kit							
CY-1182	CycLex® AMPK Kinase Assay Kit	CY-1161	CycLex® cyclic GMP dependent protein kinase (cGK) Assay Kit	CY-7050	CycLex® Phospho-p53 Ser46 ELISA kit							
CY-8069	CircuLex™ Anti-CML rat autoantibody ELISA Kit	CY-9050	CircuLex™ DU-1/PARK7 ELISA Kit	CY-7053	CycLex® Poly-Ubiquitinated Protein ELISA kit							
7635	ApoE4/Pan-ApoE ELISA Kit	7618E	ECP ELISA Kit	5230	MESACUP Protein Kinase Assay							
4700	MEBCYTO Apoptosis kit	7630	EDN ELISA Kit	CY-1350	CycLex® Protein Tyrosine Phosphatase 1B (PTP1B) Fluorometric Assay Kit							
8445	Apoptosis kit Direct	CY-8077	CircuLex™ Mouse FABP4/AFABP ELISA Kit 96 Assays	CY-1081	CycLex® Pyk2 Kinase Assay/Inhibitor Screening Kit							
8441	Apoptosis kit-IL	CY-8056	CircuLex™ Mouse FABP5/E-FABP/mal1 ELISA Kit	CY-1160	CycLex® Rho-kinase Assay Kit							
CY-1173	CycLex® CaM kinase II Assay Kit	5321	Ab-Match ASSEMBLY Human FAM3D Kit	CY-8058	CircuLex™ S100A12/EN-RAGE ELISA Kit							
CY-1170	CycLex® Casein Kinase2 (CK2) Assay/Inhibitor Screening kit	CY-1150	CycLex® HDACs Deacetylase Fluorometric Assay Kit	CY-8057	CircuLex™ S100A13 ELISA Kit							
4800	APOPCYTO Caspase-3 Colorimetric Assay Kit	CY-8071	CircuLex™ High-Sensitivity CRP (C-Reactive Protein) ELISA Kit	CY-8059	CircuLex™ S100A4 ELISA Kit							
4815	APOPCYTO Caspase-3 Fluorometric Assay Kit	CY-1143	CycLex® Histone H2A.X Phosphorylation Cellular ELISA Kit	CY-8073	CircuLex™ S100A7/Psoriasis ELISA Kit							
4825	APOPCYTO Caspase-9 Fluorometric Assay Kit	7620	Human IL-18 ELISA Kit	CY-8061	CircuLex™ S100A8/MRP8 ELISA kit							
CY-8080	CircuLex CD5L/Spo ELISA kit	7625	Mouse IL-18 ELISA Kit	CY-8062	CircuLex™ S100A9/MRP14 ELISA kit							
5235	MESACUP Cdc2 Kinase Assay	7650	Human IL-33 Cytokine domain Detection Kit	CY-8060	CircuLex™ S100P ELISA Kit							
CY-1355	CycLex® Cdc25 Family Fluorometric Assay Kit	CY-8078	CircuLex™ Mouse/Rat PCSK9 ELISA Kit	5255	sFas Ligand ELISA Kit							
CY-1164	CycLex® Cdc2-Cyclin B Kinase Assay Kit	CY-1253	NAD+/NADH Colorimetric Assay Kit	CY-1151	CycLex® SIRT1/Sir2 Deacetylase Fluorometric Assay Kit							
CY-1142	CycLex® Cellular BrdU ELISA Kit	CY-1251	CycLex® NAMPT Colorimetric Assay Kit	CY-1153	CycLex® SIRT3 Deacetylase Fluorometric Assay Kit							
CY-1140	CycLex® Cellular Histone Acetylation Assay Kit	CY-8070	CircuLex™ NGAL (Lipocalin-2) ELISA Kit	CY-8081	CircuLex™ Human soluble LOX-1/OLR1 ELISA Kit							
CY-1141	CycLex® Cellular UV DNA-Damage Detection Kit	CY-1252	CycLex® MNMAT Colorimetric Assay Kit	7638	ST2 ELISA Kit							
CY-8074	CircuLex Human Chitrosidase ELISA Kit	5323	Ab-Match ASSEMBLY Human PAP1 Kit	CY-8065	CircuLex™ Mouse Visfatin/PBEF ELISA Kit							
CY-1249	CycLex® Chitrosidase Fluorometric Assay Kit	CY-8079	CircuLex™ Human PCSK9 ELISA Kit									
RECOMBINANT PROTEINS												
Code No.	Product Name	Code No.	Product Name	Code No.	Product Name							
CY-E1173	CaM Kinase II Positive control	B002-5	Mouse IL-18	CY-E1251	NAMPT (Nicotinamide Phosphoribosyltransferase)							
CY-E1164	Cdc2-Cyclin B Positive control	B003-5	Human IL-18 (without BSA)	CY-R2331	PCSK9 D374Y							
CY-E1161-1	cGK positive control (Catalytic domain)	B004-5	Mouse IL-18 (without BSA)	CY-R2311	PCSK9 D374Y in culture medium							
CY-E1161-2	cGK positive control (Full length)	B003-2	Human IL-18 (without BSA) Liquid	CY-R2330	PCSK9 Wild Type							
CY-E1170-1	CK2 (alpha/beta) Positive Control	B004-2	Mouse IL-18 (without BSA) Lyoph.	CY-E1081	Pyk2 Positive Control (Catalytic Domain)							
CY-R2052	CML-BSA [Nε-(Carboxymethyl) lysine-BSA]	PM036-P	LC3 Positive control	CY-E1160-1	Rho-kinase positive control							
CY-R2056	Glucose-AGE-BSA	CY-R2340	LDLR EGF-AB domain	CY-R2458	Human S100A8 Low Endotoxin							
B001-5	Human IL-18	CY-R2341	LDLR EGF-AB domain, Myc-tagged	CY-R2259-H	Human S100A9							
				CY-R2459-G	Human S100A9 Low Endotoxin							

# FEATURED PRODUCTS

## CoralHue® Fluorescent protein vectors

Fluorescent protein	Abbr.	Oligomerization	Excitation maxima (nm)	Emission maxima (nm)	Product Code				
					S1	MC1	MN1	MCLinker	MNLinker
Midoriishi-Cyan	MiCy1	Dimer	472	495	AM-V0061				
	mMiCy1	Monomer	470	496	AM-V0111				
	hmMiCy1	Monomer	470	496		AM-V0115	AM-V0116	AM-V0119	AM-V0110
Umikinoko-Green	mUKG1	Monomer	483	499	AM-V0161				
	hmUKG1	Monomer	483	499	AM-V0164	AM-V0165	AM-V0166		
Azami-Green	AG	Tetramer	492	505	AM-V0021				
	mAG1	Monomer	492	505	AM-V0031	AM-V0032	AM-V0033		
	hmAG1	Monomer	492	505	AM-V0034	AM-V0035	AM-V0036	AM-V0039	AM-V0030
Kusabira-Orange	KO1	Dimer	548	561	AM-V0041				
	mKO1	Monomer	548	559	AM-V0051	AM-V0052	AM-V0053		
	mKO2	Monomer	551	565	AM-V0141				
	hKO1	Dimer	548	561	AM-V0044	AM-V0045	AM-V0046		
	hmKO1	Monomer	548	559	AM-V0054	AM-V0055	AM-V0056	AM-V0059	AM-V0050
	hmKO2	Monomer	551	565		AM-V0145	AM-V0146	AM-V0149	AM-V0140
Keima-Red	dKeima570	Dimer	440	570	AM-V0121				
	hdKeima570	Dimer	440	570	AM-V0124			AM-V0129	AM-V0120
	dKeima-Red	Dimer	440	616	AM-V0101				
	mKeima-Red	Monomer	440	620	AM-V0091			AM-V0093	
	hdKeima-Red	Dimer	440	616	AM-V0104			AM-V0109	AM-V0100
	hmKeima-Red	Monomer	440	620	AM-V0094			AM-V0099	AM-V0090
Dronpa Green	DG1	Monomer	503	518	AM-V0071	AM-V0072	AM-V0073		
	hDG1	Monomer	503	518				AM-V0079	AM-V0070
	DG3	Monomer	491	514	AM-V0131				
Kaede	Kaede	Tetramer	508/572	518/580	AM-V0011	AM-V0012	AM-V0013		
Kikume Green-Red	KikGR1	Tetramer	507/583	517/593	AM-V0081	AM-V0082	AM-V0083		
	mKikGR1	Monomer	505/580	517/591	AM-V0151				
	hKikGR1	Tetramer	507/583	517/593	AM-V0084	AM-V0085	AM-V0086	AM-V0089	AM-V0080
	hmKikGR1	Monomer	505/580	517/591				AM-V0159	AM-V0150

S1: Vectors for subcloning    MC1, MN1: Expression vectors    MCLinker, MNLinker: Expression vectors with flexible linkers  
h: Humanized-codon

## Organelle targeting vectors

Fluorescent protein	Abbr.	Oligomerization	Excitation maxima (nm)	Emission maxima (nm)	Product Code			
					Mitochondria	Endoplasmic reticulum	Plasma membrane	Nucleoplasm
Azami-Green	AG	Tetramer	492	505	AM-V0214			
	mAG1	Monomer	492	505	AM-V0201	AM-V0202	AM-V0203	
Kusabira-Orange	KO1	Dimer	548	561	AM-V0234			
	mKO1	Monomer	548	559	AM-V0221	AM-V0222	AM-V0223	
Keima-Red	mKeima-Red	Monomer	440	620	AM-V0251		AM-V0253	
	hdKeima-Red	Dimer	440	616	AM-V0274			

## FUCCI Protein Vectors

Fluorescent protein	Abbr.	Oligomerization	Excitation maxima (nm)	Emission maxima (nm)	Fluorescence quantum yield	pH sensitivity	Product Code	
							Cloning	Expression
S/G2/M Green	mAG1-hGem (1-110)	Monomer	492	505	0.74	pKa=5.8	AM-V9014	AM-V9010 (Hygromycin) AM-V9016
S/G2/M Green (N+C)	mAG1-hGem (1-60)	Monomer	492	505	0.74	pKa=5.8	AM-V9034	AM-V9030 (Hygromycin)
G1 Orange	mKO2-hCdt1 (30-120)	Monomer	551	565	0.62	pKa=5.5	AM-V9001	AM-V9003

IVD AUTOIMMUNE IFA			IVD INFECTIOUS DISEASE IFA					
ANA TEST SYSTEMS			VIRAL ANTIGEN SUBSTRATE SLIDES (contd)			CONTROL SERA (contd)		
Code No.	Product Name	Size	Code No.	Product Name	Size	Code No.	Product Name	Description
ANK-120*	ANA (HEp-2) Test System	120 test	EB-5012*	Epstein-Barr Virus (EBV), VCA	12-well	EBG-5020*	Epstein Barr Virus –VCA	Positive Control, IgG
ANK-60*	ANA (HEp-2) Test System	60 test	EAD-5412	Epstein-Barr Early Antigen, Diffuse Only (RUO)	12-well	EBM-5030*	Epstein Barr Virus –VCA	Positive Control, IgM
<b>ANA SUBSTRATE SLIDES</b>			EARD-5312	Epstein-Barr Early Antigen, Restricted & Diffuse (RUO)	12-well	EBN-5010	EBV Early Antigen – Restricted (RUO)	Negative Control
Code No.	Product Name	Size	NA-5112*	EBV Nuclear Antigen (EBNA)	12-well	EAR-5340	EBV Early Antigen – Restricted (RUO)	Positive Control, IgG
AN-1006*	Antinuclear Antibody (HEp-2)	6 - well	HS1-3012*	Herpes Simplex Virus Type 1	12-well	EBN-5010	EBV Early Antigen – Diffuse (RUO)	Negative Control
AN-1012*	Antinuclear Antibody (HEp-2)	12 - well	HS2-4012*	Herpes Simplex Virus Type 2	12-well	EAD-5440	EBV Early Antigen – Diffuse (RUO)	Positive Control, IgG
AN-1016*	Antinuclear Antibody (HEp-2)	16 - well	HHV6-4312	Human Herpesvirus Type 6 (RUO)	12-well	EBN-5010*	EBV Nuclear Antigen (EBNA)	Negative Control
<b>ANA CONTROL SERA</b>			IA-1112*	Influenza A Virus	12-well	NA-5140*	EBV Nuclear Antigen (EBNA)	Positive Control, IgG
Code No.	Product Name	Size	IB-2112*	Influenza B Virus	12-well	ECN-4410*	Echovirus Types 4, 6, 9, 11, 30 & 34	Negative Control
ANN-1010*	ANA Negative	0.5 mL	ME-6012*	Measles (Rubeola) Virus	12-well	ECG-4420*	Echovirus Types 4, 6, 9, 11, 30 & 34	Positive Control, IgG
ANP-1040*	ANA Positive (Homogeneous)	0.5 mL	ME-6006*	Measles (Rubeola) Virus	6-well	HPN-3210	Helicobacter pylori (RUO)	Negative Control
NUC-1042*	ANA Nucleolar	0.5 mL	MU-8012*	Mumps Virus	12-well	HPG-3220	Helicobacter pylori (RUO)	Positive Control, IgG
ACA-1043*	ANA Anti-Centromere (ACA)	0.5 mL	MU-8006*	Mumps Virus	6-well	HSN-3510*	Herpes Simplex Virus Types 1 & 2	Negative Control
RNP-1044*	ANA Ribonucleoprotein (RNP)	0.5 mL	P1-7112*	Parainfluenza Virus Type 1	12-well	HSG-3520*	Herpes Simplex Virus Types 1 & 2	Positive Control, IgG
SSA-1045*	ANA Sjogren's Syndrome A (SS-A)	0.5 mL	P2-8112*	Parainfluenza Virus Type 2	12-well	HSM-3530*	Herpes Simplex Virus Types 1 & 2	Positive Control, IgM
SCL-1046*	ANA Scleroderma-70 (Scl-70)	0.5 mL	P3-9112*	Parainfluenza Virus Type 3	12-well	HH6N-4310	Human Herpesvirus Type 6 (RUO)	Negative Control
SSB-1047*	ANA Sjogren's Syndrome B (SS-B)	0.5 mL	RS-9012*	Respiratory Syncytial Virus	12-well	HH6G-4320 (RUO)	Human Herpesvirus Type 6 (RUO)	Positive Control, IgG
<b>ANA COMPONENTS &amp; CONJUGATES</b>			VZ-7012*	Varicella Zoster Virus	12-well	IAN-1110*	Influenza A Virus	Negative Control
Code No.	Product Name	Size	VZ-7006*	Varicella Zoster Virus	6-well	IAG-1120*	Influenza A Virus	Positive Control, IgG
CCP-9970*	Anti-human IgG Conjugate (heavy and light chain specific)	3.5 mL	<b>SPECIAL ANTIGEN SUBSTRATE SLIDES</b>					
CCP-9920*	Anti-human IgG Conjugate (heavy and light chain specific)	20 mL	Code No.	Product Name	Description	Size	IBN-2110*	Influenza B Virus
CCP-9940*	Anti-human IgG Conjugate (heavy and light chain specific)	40 mL	BB-6112*	Borrelia burgdorferi	Antigen Substrate Slide	12-well	IBG-2120*	Influenza B Virus
CCP-9960*	Anti-human IgG Conjugate (heavy and light chain specific)	60 mL	BH-1612	Bartonella henselae (RUO)	Antigen Substrate Slide	12-well	MEN-6010*	Measles (Rubeola)
DIL-9993*	IFA Diluent	60 mL	BH-1606	Bartonella henselae (RUO)	Antigen Substrate Slide	6-well	MEG-6020*	Measles (Rubeola)
DIL-9994*	IFA Diluent	125 mL	CH-4112*	Chlamydia (LGV-1)	Antigen Substrate Slide	12-well	MEM-6030*	Measles (Rubeola)
DIL-9995*	IFA Diluent	250 mL	CP-4212	Chlamydia pneumoniae (RUO)	Antigen Substrate Slide	12-well	MUN-8010*	Mumps Virus
PBS-9990*	Phosphate Buffered Saline (PBS), 1L	1 packet	HP-3212	Helicobacter pylori (RUO)	Antigen Substrate Slide	12-well	MUG-8020*	Mumps Virus
PBS-9991*	Phosphate Buffered Saline (PBS), 5L	1 packet	MP-1212*	Mycoplasma pneumoniae	Antigen Substrate Slide	12-well	MUM-8030*	Mumps Virus
MM-9985*	Mounting Medium	3.5 mL dropper bottle	MP-1206*	Mycoplasma pneumoniae	Antigen Substrate Slide	6-well	MPN-1210*	Mycoplasma pneumoniae
MM-9986*	Mounting Medium	20 mL dropper bottle	<b>CONTROL SERA</b>					
<b>IVD INFECTIOUS DISEASE IFA</b>			Code No.	Product Name	Description	Size	MPM-1230*	Mycoplasma pneumoniae
<b>INFECTIOUS DISEASE TEST SYSTEMS</b>			ADN-3110*	Adenovirus	Negative Control		PN-8510*	Parainfluenza Virus Types 1, 2 & 3
Code No.	Product Name	Size	ADG-3120*	Adenovirus	Positive Control, IgG		PG-8520*	Parainfluenza Virus Types 1, 2 & 3
CMG-120*	Cytomegalovirus IgG	120 Test	BN-0610	Bartonella henselae (RUO)	Negative Control		RSN-9010*	Respiratory Syncytial Virus
EBG-120*	Epstein Barr Virus VCA, IgG	120 Test	BHG-1620	Bartonella henselae (RUO)	Positive Control, IgG		RSG-9020*	Respiratory Syncytial Virus
EBM-120*	Epstein Barr Virus VCA, IgM	120 Test	BBN-6110*	Borrelia burgdorferi	Negative Control		VZN-7010*	Varicella Zoster Virus
HS1G-120*	Herpes Simplex Virus Type 1, IgG	120 Test	BBG-6120*	Borrelia burgdorferi	Positive Control, IgG		VZG-7020*	Varicella Zoster Virus
HS2G-120*	Herpes Simplex Virus Type 2, IgG	120 Test	BBM-6130*	Borrelia burgdorferi	Positive Control, IgM		VZM-7030*	Varicella Zoster Virus
MEG-120*	Measles (Rubeola) Virus IgG	120 Test	CHN-4110*	Chlamydia	Negative Control		<b>ANTIGEN CONTROL SLIDES</b>	
MEG-60*	Measles (Rubeola) Virus IgG	60 Test	CHG-4120*	Chlamydia	Positive Control, IgG		Code No.	Product Name
MEM-120*	Measles (Rubeola) Virus IgM	120 Test	CHM-4130*	Chlamydia	Positive Control, IgM		QAD-3102*	Adenovirus
MEM-60*	Measles (Rubeola) Virus IgM	60 Test	CPN-4210	Chlamydia pneumonia (TWAR) (RUO)	Negative Control		QCH-4102*	Chlamydia – Inclusions
MUG-120*	Mumps Virus, IgG	120 Test	CPG-4220	Chlamydia pneumonia (TWAR) (RUO)	Positive Control, IgG		QCHE-4502*	Chlamydia – Elementary Bodies
MUG-60*	Mumps Virus, IgG	60 Test	CPM-4230	Chlamydia pneumonia (TWAR) (RUO)	Positive Control, IgM		QCM-2002*	Cytomegalovirus
<b>VIRAL ANTIGEN SUBSTRATE SLIDES</b>			CBN-3310*	Coxsackievirus Group B Types 1-6	Negative Control		QME-6002*	Measles (Rubeola) Virus
Code No.	Product Name	Size	CBG-3320*	Coxsackievirus Group B Types 1-7	Positive Control, IgG		QMU-8002*	Mumps Virus
AD-3112*	Adenovirus	12-well	CMN-2010*	Cytomegalovirus	Negative Control		QRS-9002*	Respiratory Syncytial Virus
CB-3312*	Coxsackievirus Group B Screen	12-well	CMG-2020*	Cytomegalovirus	Positive Control, IgG		QVZ-7002*	Varicella Zoster Virus
CB-3306*	Coxsackievirus Group B Screen	6-well	CMM-2030*	Cytomegalovirus	Positive Control, IgM		QEP-6604*	Enterovirus Panel
CM-2012*	Cytomegalovirus	12-well	EBN-5010	EBV, Early Antigen-Diffuse (RUO)	Negative Control		QHS-3504*	Herpes simplex Virus Types 1 and 2
EC-4412*	Echovirus Screen	12-well	EAD-5440	EBV, Early Antigen-Diffuse (RUO)	Positive Control, IgG		QAB-1504*	Influenza A and Influenza B Virus
<b>IVD INFECTIOUS DISEASE IFA (contd)</b>			EBN-5010*	Epstein Barr Virus –VCA	Negative Control		QP-8506*	Parainfluenza Virus Types 1, 2, and 3
<b>IFA COMPONENTS &amp; CONJUGATES</b>							QRP-6314*	Respiratory Panel
Code No.	Product Name	Size	Code No.	Product Name	Size	Code No.	Product Name	Size
CCG-9972*	Anti-human IgG (heavy chain specific) for detecting IgG specific antibodies	3.5 mL	CXCG-9972*	Anti-human IgG (heavy chain specific) for EBV IgG testing	3.5 mL	PBS-9991*	Phosphate Buffered Saline (PBS), 5L	1 packet
CCG-9922*	Anti-human IgG (heavy chain specific) for detecting IgG specific antibodies	20 mL	CXCM-9974*	Anti-human IgM (heavy chain specific) for EBV IgM testing	3.5 mL	MM-9985*	Mounting Medium	3.5 mL dropper bottle
CCM-9974*	Anti-human IgM (heavy chain specific) for detecting IgM specific antibodies	3.5 mL	CGC-9979*	Anti-Guinea Pig (C3) Conjugate for use in EBNA testing	3.5 mL	MM-9986*	Mounting Medium	20 mL dropper bottle
CCM-9924*	Anti-human IgM (heavy chain specific) for detecting IgM specific antibodies	20 mL	PBS-9990*	Phosphate Buffered Saline (PBS), 1L	1 packet			

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## SALES SUPPORT

We do more than sell products. All of our commercial teams possess advanced scientific degrees and extensive laboratory experience. Our goal is to serve as advisors and consultants to assist you in project planning and product recommendations. To have your questions answered or to receive a pricing quote, please contact our team.

By email: [sales@mblintl.com](mailto:sales@mblintl.com)  
By phone: 1-800-200-5459, Option 1  
By fax: 847-544-5051



For international customers, please contact your local representative.

## TECHNICAL SUPPORT

MBL International Corporation recruits only the best scientific talent to provide answers to all of your questions regarding the use or applications of our products. We offer a variety of convenient methods to contact our technical support team.

By email: [tech@mblintl.com](mailto:tech@mblintl.com),  
By phone: 1-800-200-5459, Option 3

Contact your local distributor to have your inquiry directed to our attention.



## CUSTOMER SUPPORT

From order to delivery and at every point in between, our world-class customer service team is dedicated to ensure that your orders are processed efficiently and accurately. Customer service representatives are available.

By email: [customerservice@mblintl.com](mailto:customerservice@mblintl.com)  
By phone: 1-800-200-5459, Option 8  
(8:30am -6:00pm EST, Monday-Friday)  
By fax: 847-544-5051



Contact your local distributor for assistance and your inquiries will be directed appropriately.

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